City of Austin-Department of Aviation Austin-Bergstrom International Airport Master Plan

Project Advisory Committee Meeting #3

April 18, 2018

Austin-Bergstrom International Airport

DISCUSSION TOPICS

Introduction

2040 ABIA Master Plan Schedule

Aviation Forecast Overview

Basis of Demand Capacity Analysis

Summary of Airport Facility Needs

Alternatives Analysis

Next Steps

ABIA 2040 MASTER PLAN SCHEDULE

Austin-Bergstrom International Airport

How Long Will this Take?

Did You Know?: ABIA is Ranked 4th Best U.S. Domestic Airport

Voting Criteria: Access, Check-in/Security,

Design Shopping and Restaurants/Bars

#1: Portland International Airport (PDX)

#2: Indianapolis International Airport (IND)

#3: Tampa International Airport (TPA)

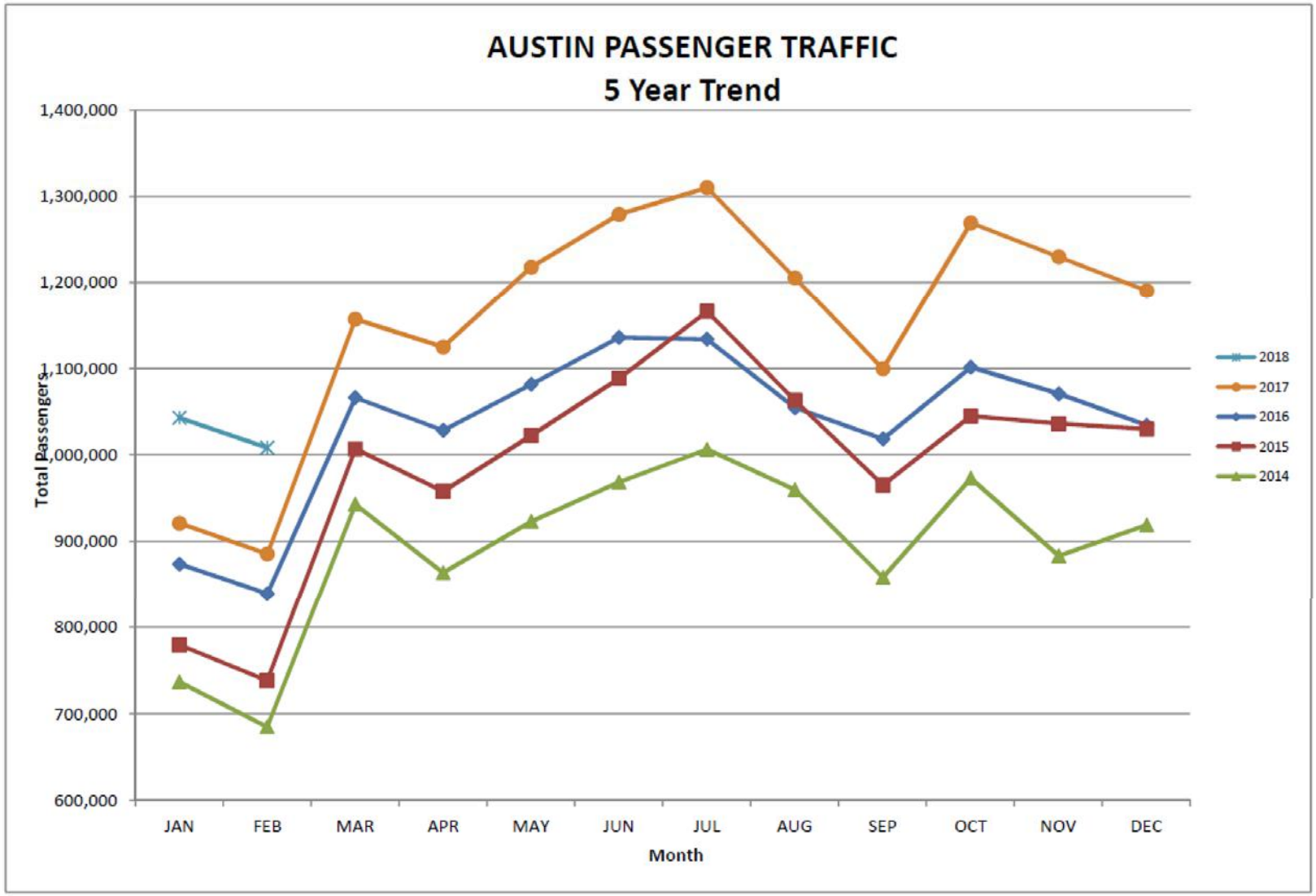
#4: Austin-Bergstrom Int. Airport (AUS)

#5: Minneapolis-St. Paul International Airport (MSP)

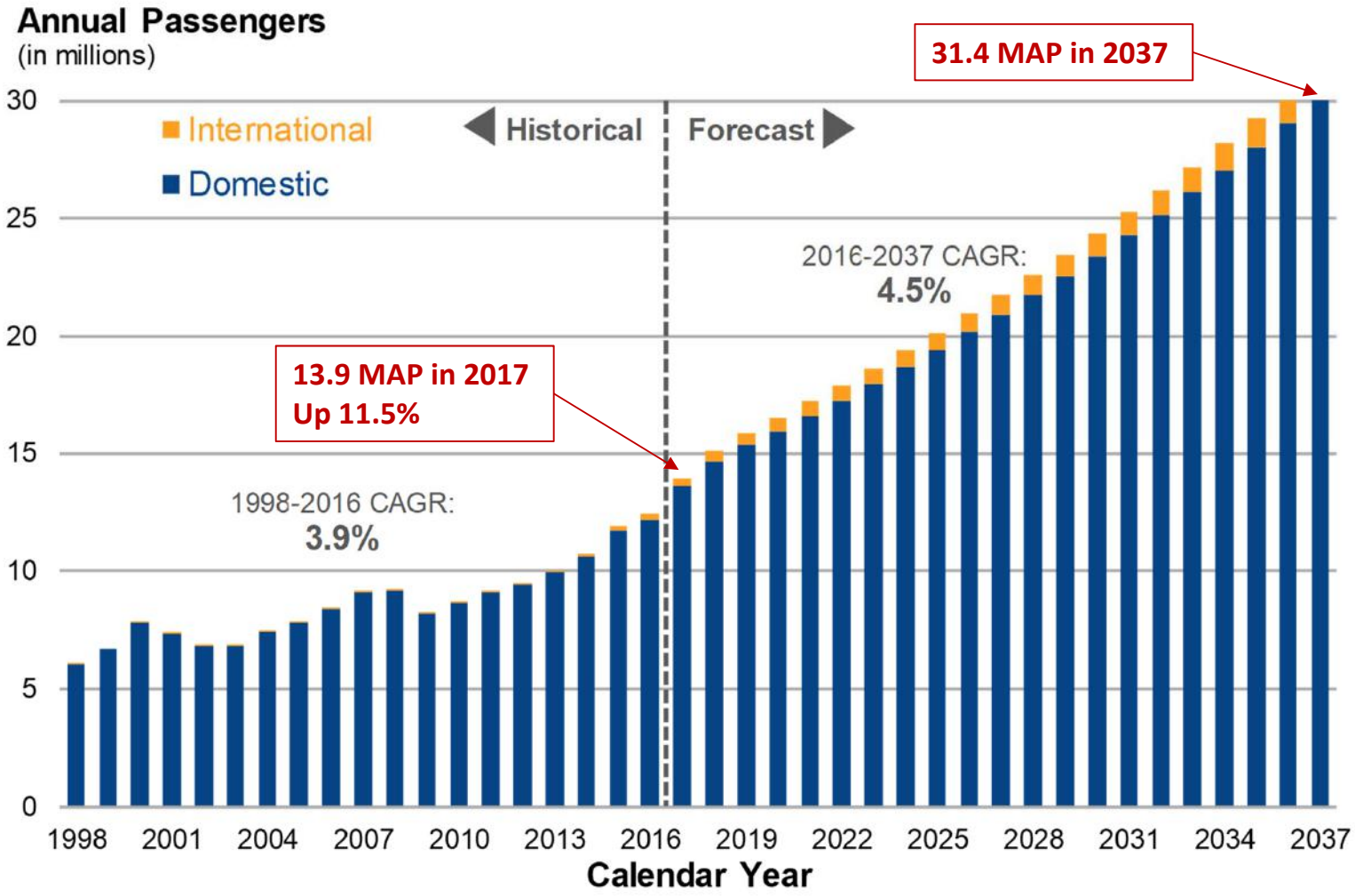
AVIATION FORECAST OVERVIEW

Austin-Bergstrom
International Airport

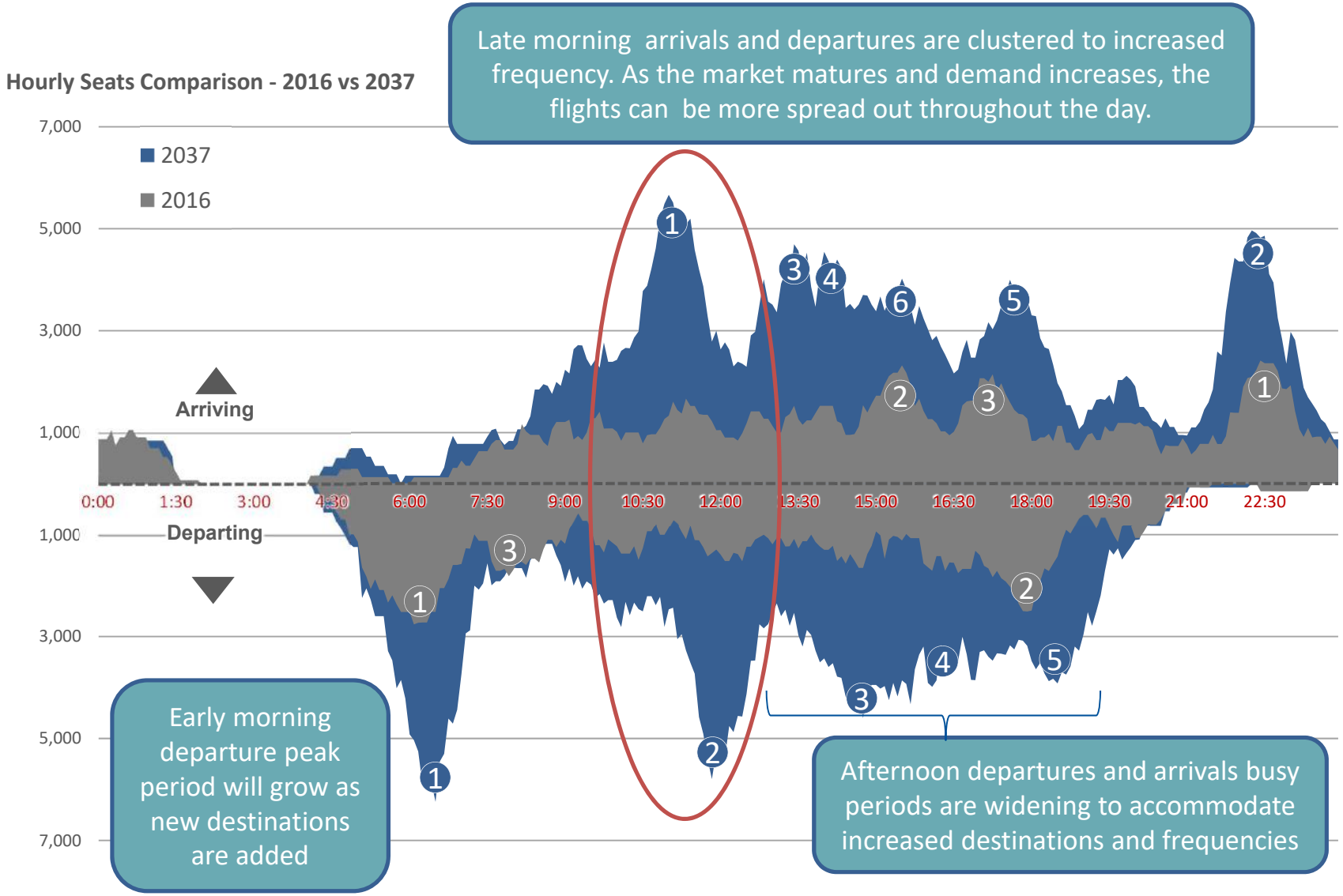
ABIA Historical Passenger Traffic



ABIA Enplaned Passenger 4.5% Compound Annual Growth Rate



Peak Hour Growth



BASIS OF DEMAND CAPACITY ANALYSIS

Austin-Bergstrom International Airport

Planning Activity Levels (PAL's)

PAL 3 (2027)		PAL 4 (2037)
20-22	 Million Annual Passengers	27-31
129,800 – 513,500	 Tons of Enplaned Cargo	161,000 – 1.5 M
247,800 – 287,200	 Annual Aircraft Operations	296,500 – 426,6000

SUMMARY OF AIRPORT FACILITY NEEDS

Austin-Bergstrom International Airport

2037 AIRFIELD REQUIREMENTS

Austin-Bergstrom
International Airport

Runway Facility Requirements Approach

INPUTS

- Existing Runway Operations
- AirTOp Model
- Runway Queue Model
- ACRP Report 79, Evaluating Airport Capacity

INDUSTRY STANDARDS

- Design Day Flight Schedule
- Runway Operating Configuration
- Airspace Structure
- Aircraft Fleet Mix
- Aircraft Taxi Flows/Speeds
- Aircraft Separations
- Airline Gate Allocation

PROCESSING RATES

- FAA NextGen Procedures

INDUSTRY INITIATIVES

- New Approach/Departure Procedures
- RNAV
- RNP

NEW TECHNOLOGIES

FACILITY REQUIREMENTS ANALYSIS

OUTPUTS

- RWY. THROUGHPUT
- AIRCRAFT DELAYS
- TAXI TIMES
- TAXI FLOWS
- RWY. CLOSURE CAPACITY

ALTERNATIVES

Effects of Closing Runways

Using data from the forecasting analysis, aviation planners predicted **how closing each runway will affect flight schedules** and delays.

Closure of Runway 17R-35L

The delay threshold of 10 minutes will be reached by 2032, or 360,000 annual operations

Closure of Runway 17L-35R

The delay threshold of 10 minutes will be reached by 2029, or 313,000 annual operations

2037 RUNWAY LENGTH REQUIREMENTS

Austin-Bergstrom International Airport

Runway Length Requirements

Takeoffs

Cargo ~ 11,300 – 6,200

International ~ 11,200 – 9,000

Domestic ~ 10,500 – 5,800

Landings

Cargo ~ 9,000 – 5,856

International ~ 7,200 – 6,500

Domestic ~ 6,900 – 5,405

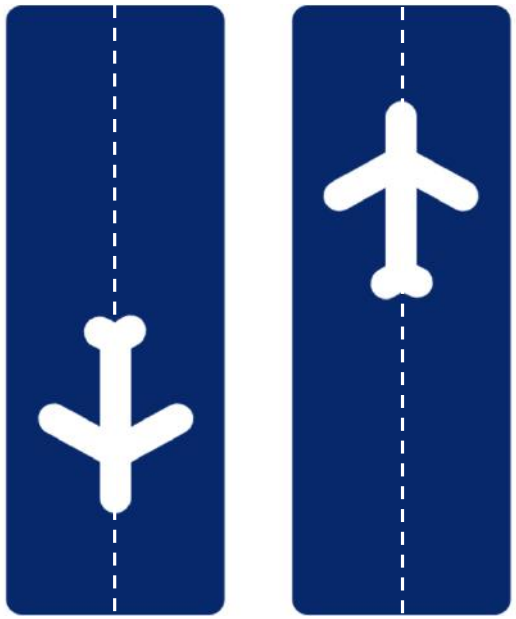
RUNWAY ALTERNATIVES AND EVALUATION

Austin-Bergstrom International Airport

Runway Alternatives Development

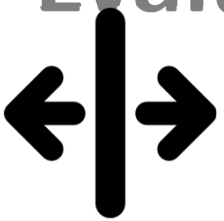
Using industry standards, the ABIA team looked at two different approaches to runways.

Closely-Spaced:
A runway that is a minimum 1,200 feet away from the existing runway will have less overall impacts and capacity.



Widely-Spaced:
A runway that is a minimum of 4,300 feet away from the existing runway. These have a larger capacity, but require more land acquisition.

Runway Alternatives Evaluation Criteria



Runway Separation

Environmental Impact

Constructability

Cost

Runway Length

Annual Total Movements

Peak Hour Balance

Potential Terminal Development

Million Annual Passengers

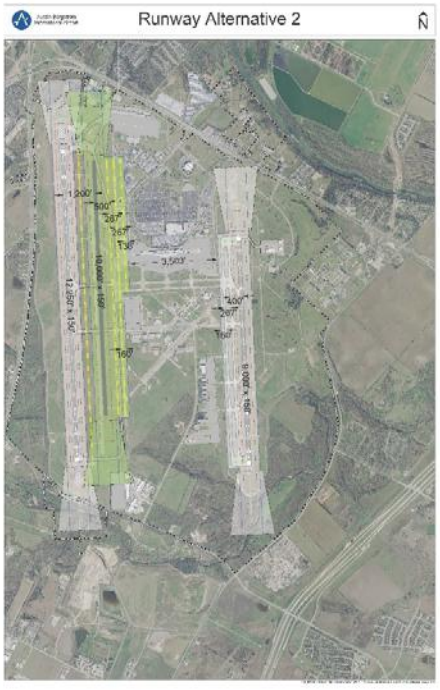
Roadway Impact

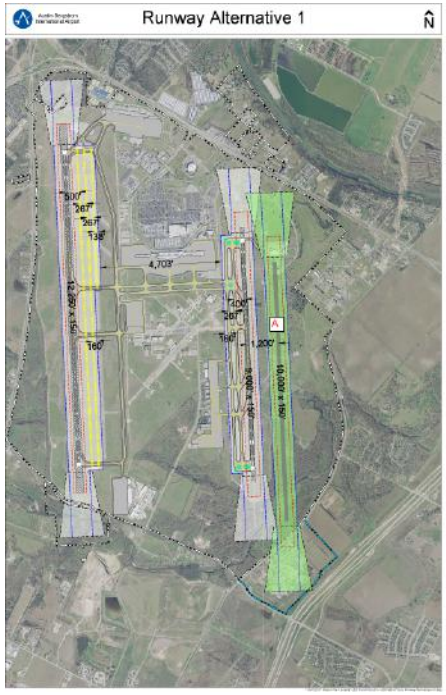
Land Development Impacts

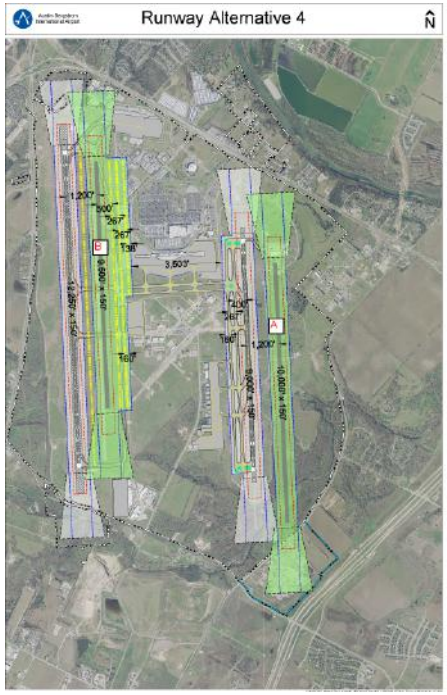
Land Acquisition

Runway Alternatives Evaluation

Evaluation Criteria	Runway Alternatives Score													
	1	1a	2	3	3a	4	5	6	7	8	9	10	11	12
MAP	50.3	50.3	50.3	66.5	66.5	56.1	72.3	72.3	66.5	78.2	78.2	72.3	66.5	72.3
1. Runway centerline separation	○	○	○	+	+	○	+	+	+	+	+	+	+	+
2. Runway length	+	−	+	+	−	+	+	+	+	+	+	+	+	+
3. Peak hour balanced operations (arrivals and departure)	+	+	+	+	+	+	+	+	+	+	+	+	+	+
4. Annual total movements (ATMs)	+	+	+	+	+	+	+	+	+	+	+	+	+	+
5. Million annual passengers (MAP)	+	+	+	+	+	+	+	+	+	+	+	+	+	+
6. Land acquisition	+	+	+	○	○	+	○	○	−	○	−	−	−	○
7. Environmental impacts	○	○	+	○	○	○	○	○	○	○	○	○	○	○
8. Off-airport roadway impacts	○	−	+	−	−	○	−	−	−	−	−	−	○	−
9. Off-airport land development impacts	+	+	+	−	−	+	−	−	−	−	−	−	−	−
10. Potential terminal development	+	+	−	+	+	−	+	−	−	−	−	−	+	+
11. Constructability/Phasing	○	○	+	○	○	○	○	−	−	−	−	−	−	○
12. Development costs	○	○	+	○	○	○	○	−	−	−	−	−	−	○
TOTAL SCORE	7	4	9	4	2	5	4	0	1	0	-1	-1	2	4





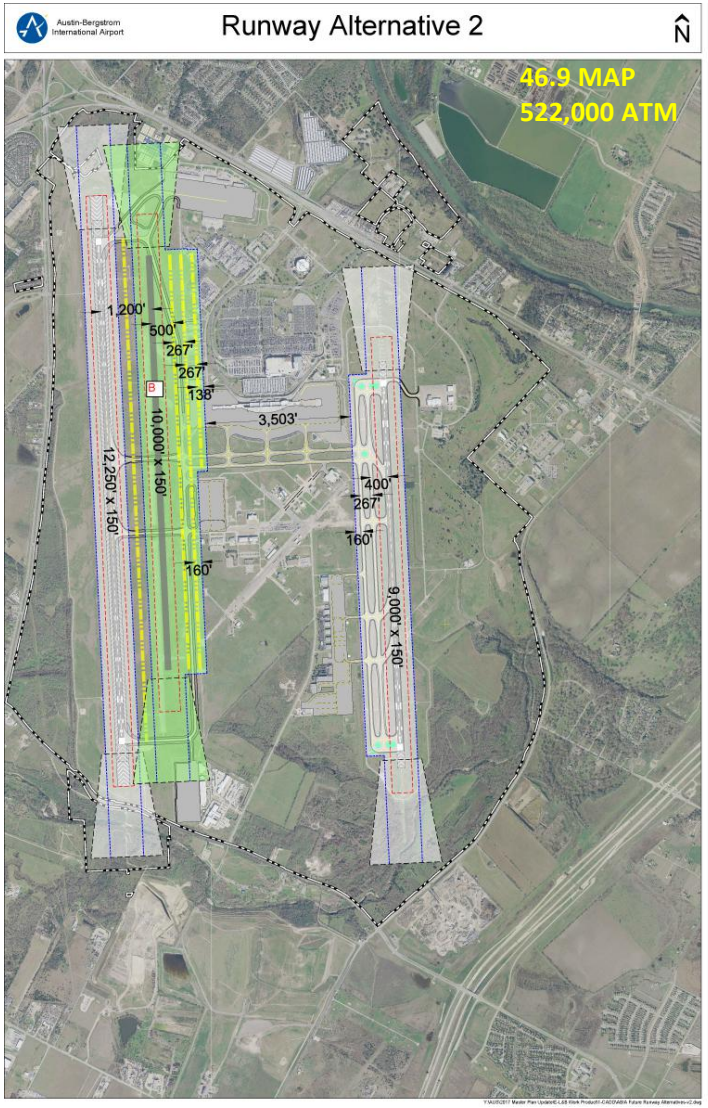


Scoring:	Positive	+
	Neutral	○
	Negative	−

Includes “Off-Airport Land Development Impacts”

Runway Alternative 2 Summary

- Provides additional runway capacity will beyond the 20-year horizon
- Has minimal impacts to surrounding communities
- Relocate west support facilities and cargo complex
- Limits western expansion of the existing terminal and concourse gates
- Major gate expansion will be to the south

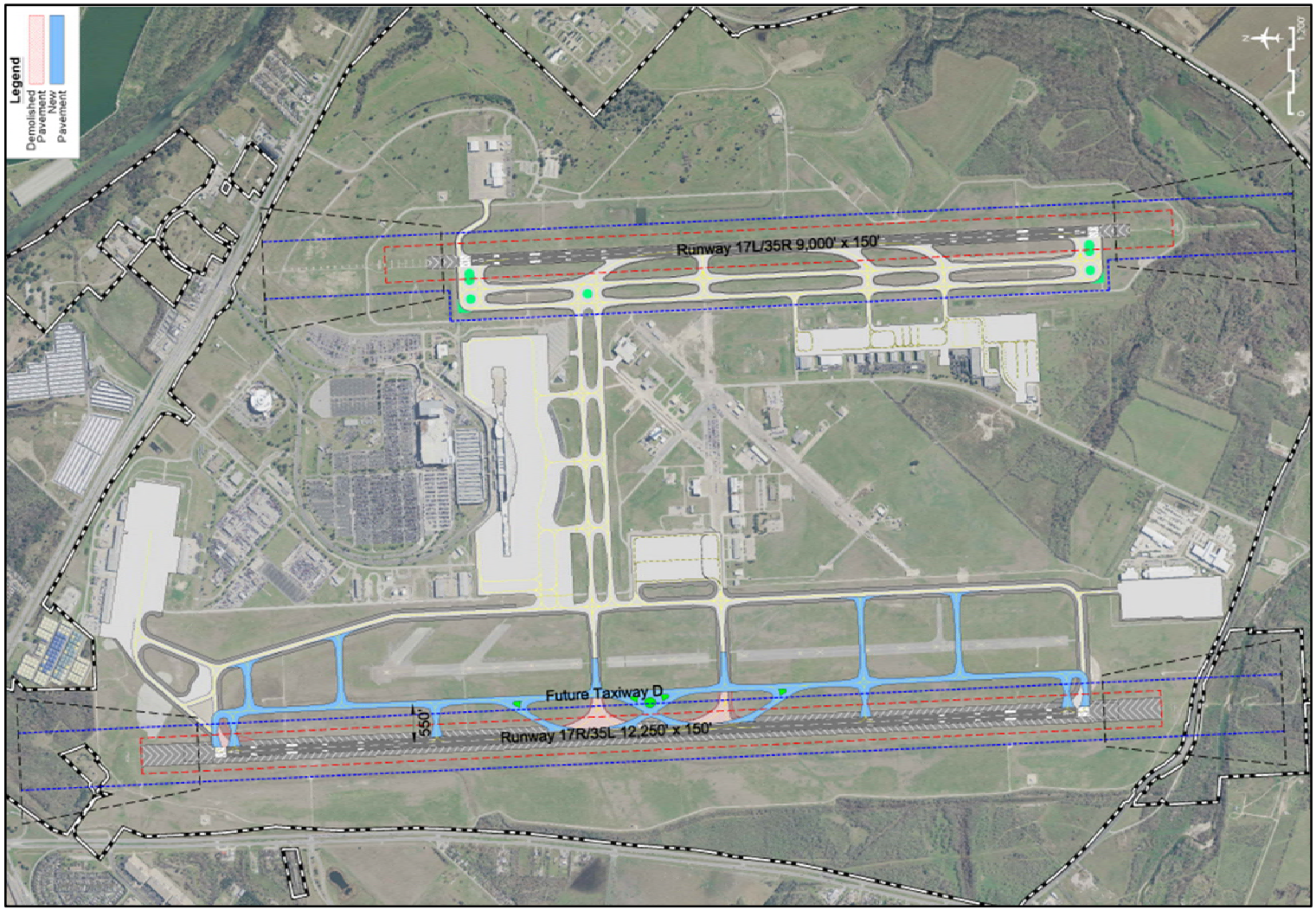


New Runway Supporting Facility Requirements

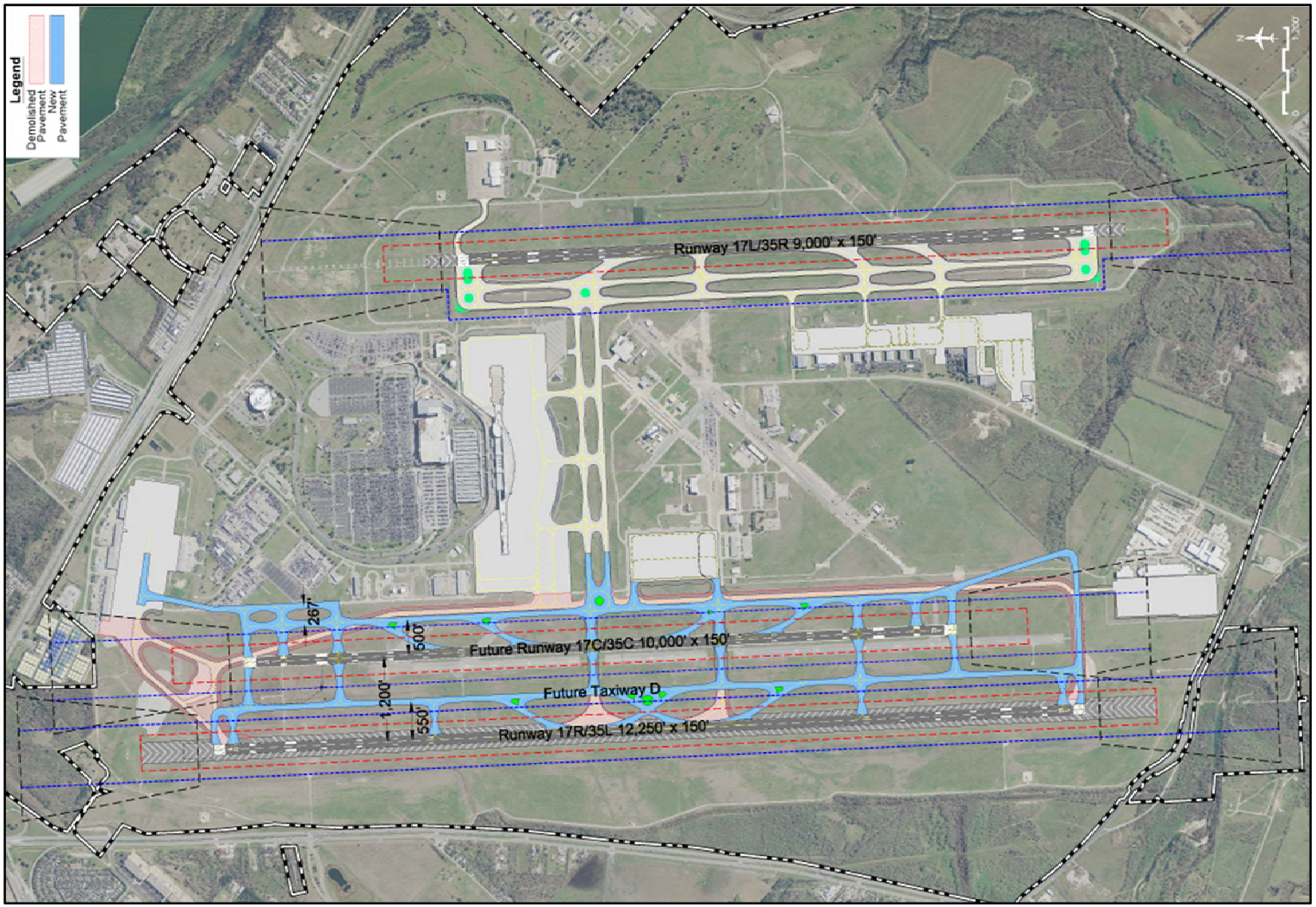
- Addition Construction Timing Considerations
  - Closure of existing runways for major maintenance (loss of capacity with 1 Rwy.)
  - Reconfiguration of Taxiway ‘C’
  - Additional Rapid Exit Taxiways (RET’s) to increase runway capacity
  - End Around Taxiways (EAT’s) to reduce delays

NEW RUNWAY & TAXIWAYS DEVELOPMENT SCHEDULE	YEARS						
	1	2	3	4	5	6	7
DESIGN / ENGINEERING							
ENVIRONMENTAL							
APPROVAL / PERMITTING PROCESS							
CONSTRUCTION / TESTING							

Recommended Runway 17R-35L & Taxiway ‘D’ Layout



Recommended New West Runway 17C-35C Layout



TERMINAL AND ROADWAY BREAKOUT SESSIONS

2037 TERMINAL REQUIREMENTS

Austin-Bergstrom International Airport

Terminal Facility Requirements Approach

INPUTS

- Airport Cooperative Research Program (ACRP)
- International Air Transport Associations (IATA)

INDUSTRY STANDARDS

- **ABIA Actual Operations Data**
- Comparable Airports

PROCESSING RATES

- IATA Fast Travel Program

INDUSTRY INITIATIVES

- Self-service Bag Drop
- Automated Screening Lanes
- Biometrics

NEW TECHNOLOGIES

FACILITY REQUIREMENTS ANALYSIS

OUTPUTS

- GATES
- TICKETING / CHECK-IN
- BAGGAGE HANDLING
- SECURITY SCREENING
- BAGGAGE CLAIM
- CONCESSIONS
- U.S. CBP

ALTERNATIVES

Demand/Capacity Terminal Facility Requirements Summary

TERMINAL FACILITIES	PAL 1 16.0 MAP	PAL 2 17.0 MAP	PAL 3 20.0 MAP	PAL 4 27.0 MAP
AIRCRAFT GATES	S	D	D	D
TICKETING/CHECK-IN	D	D	D	D
OUTBOUND BAGGAGE HANDLING	D	D	D	D
PASSENGER SECURITY SCREENING	D	D	D	D
CONCOURSE / HOLDROOMS	D	D	D	D
BAGGAGE CLAIM	D	D	D	D
CONCESSIONS	D	D	D	D
U.S. CUSTOMS & BORDER PROTECTION	D	D	D	D

- Outbound baggage handling is being addressed by current 5-year CIP
- Ticketing/Check-in, Passenger Security Screening, U.S. CBP and Concessions must be addressed in the first phase of expansion
- All terminal components require substantial expansion for PAL 2

Legend: **Sufficient**; **Deficient**

Terminal Expansion Strategy

TERMINAL EXPANSION SCHEDULE	YEARS								
	1	2	3	4	5	6	7	8	9
NEAR-TERM EXPANSION (2018-2021)									
DESIGN / ENGINEERING									
CONSTRUCTION									
LONG-TERM EXPANSION (2019-2024)									
DESIGN / ENGINEERING									
CONSTRUCTION / TESTING									

- Near-term expansion will provide immediate terminal and gate capacity to address current short-falls
- Long-term expansion will be constructed in phases to provide additional capacity in increments to accommodate growth as it occurs

Terminal Gate Requirements

- 12 additional gates will be required to meet the 10-year demand (PAL 3)
- 28 additional gates will be required for PAL 4
- Gate requirements include a 10% operational reliability factor

GATES	Existing (2019) 1/	PAL 1 (2019)	PAL 2 (2022)	PAL 3 (2027)	PAL 4 (2037)
BJT & South Terminal					
Domestic	32	32	34	42	57
International	4	3	5	6	7
SUB-TOTAL GATES	**36**	**35**	**39**	**48**	**64**
Remote RONs	42	42	45	58	74
TOTAL POSITIONS	**78**	**77**	**84**	**106**	**138**

1/ Existing 2019 includes BJT east expansion, South Terminal gates and Maintenance Ramp remote RON positions.

2037 TERMINAL ALTERNATIVES

Austin-Bergstrom International Airport

Objectives for Terminal Alternatives

Address near-term expansion requirements

Maintain or increase number of available gates during construction of the next phase

Minimize disruption to passengers or operations during expansion

Maintain or enhance passenger experience

Invest in the near-term while maintaining flexibility to adapt in the long-term

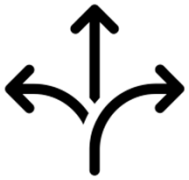
Terminal Facility Evaluation Criteria

Maintains ABIA Experience

Intuitive Wayfinding

Flexible Gate Growth

Passenger Movement



Operational Flexibility

Air Traffic Control Flexibility

New Central Plant

General Aviation Impacts

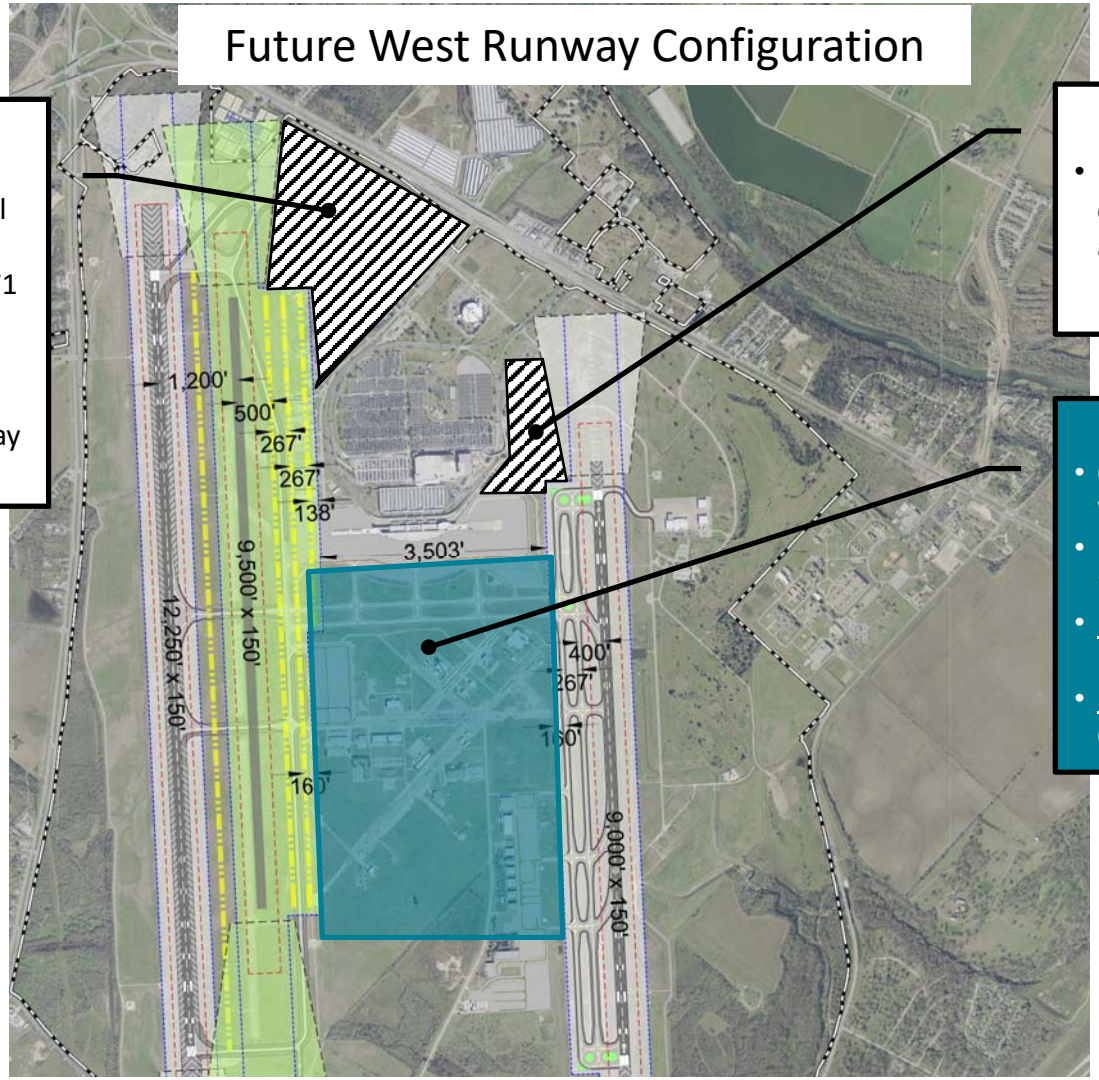
Impacts on Current CIP Projects

Fuel Storage Impacts

Terminal Expansion Opportunities & Considerations

NORTHWEST TERMINAL AREA

- Minimal area for terminal & parking
- Difficult access from SH 71
- Runway protection
- Unbalanced aircraft movement and long taxi-times to/from east runway



EAST TERMINAL AREA

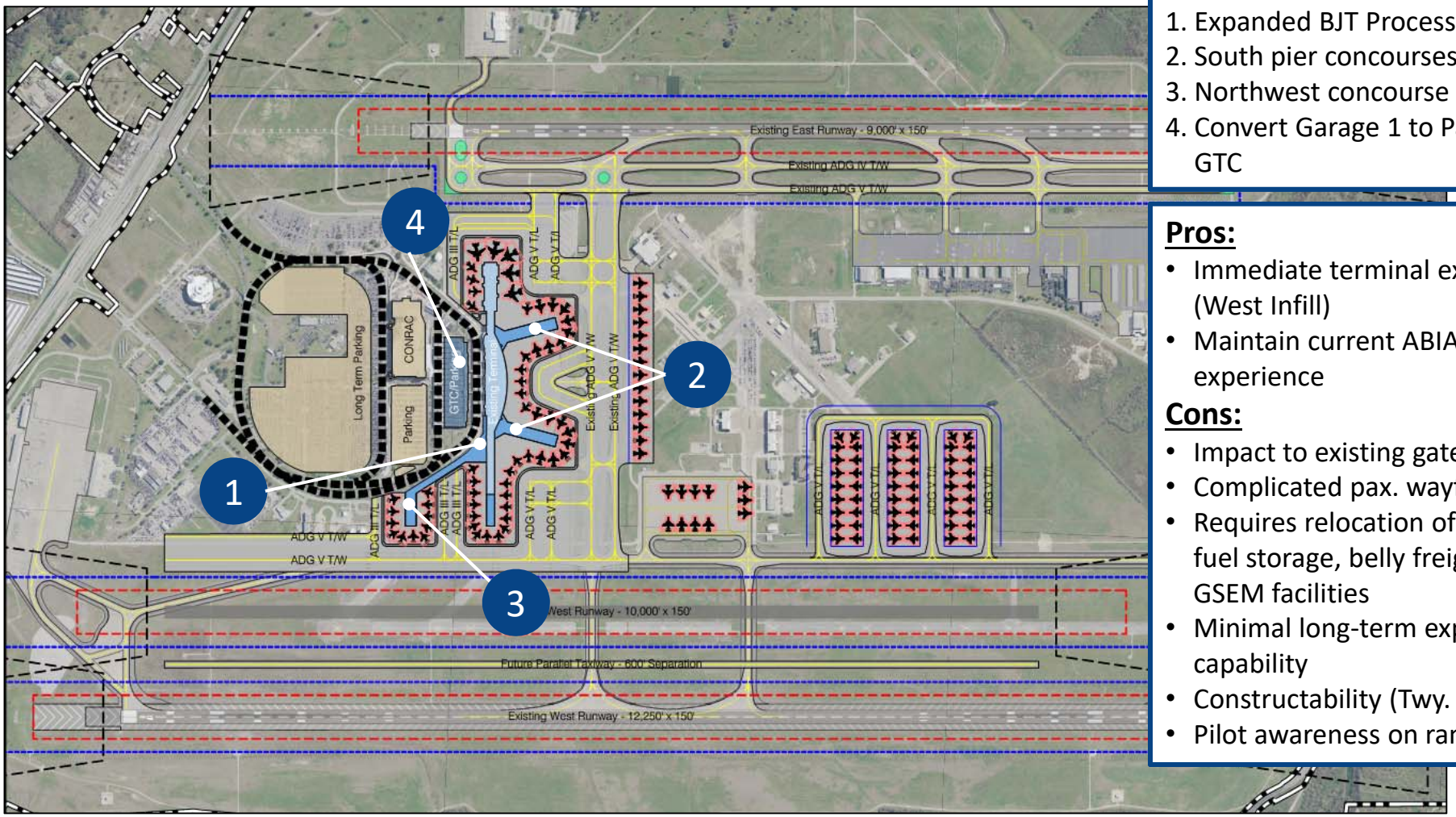
- Limited expansion opportunity due to size of area, Central Plant and runway protection

SOUTH TERMINAL AREA

- Compatible with future West Runway
- Requires substantial new infrastructure
- May split access/egress between SH 71 and US 183
- May impact FAA ATCT and General Aviation

Terminal Alternative 1

Maximize Barbara Jordan Terminal Capacity



Key Attributes:

1. Expanded BJT Processor
2. South pier concourses
3. Northwest concourse
4. Convert Garage 1 to Parking & GTC

Pros:

- Immediate terminal expansion (West Infill)
- Maintain current ABIA experience

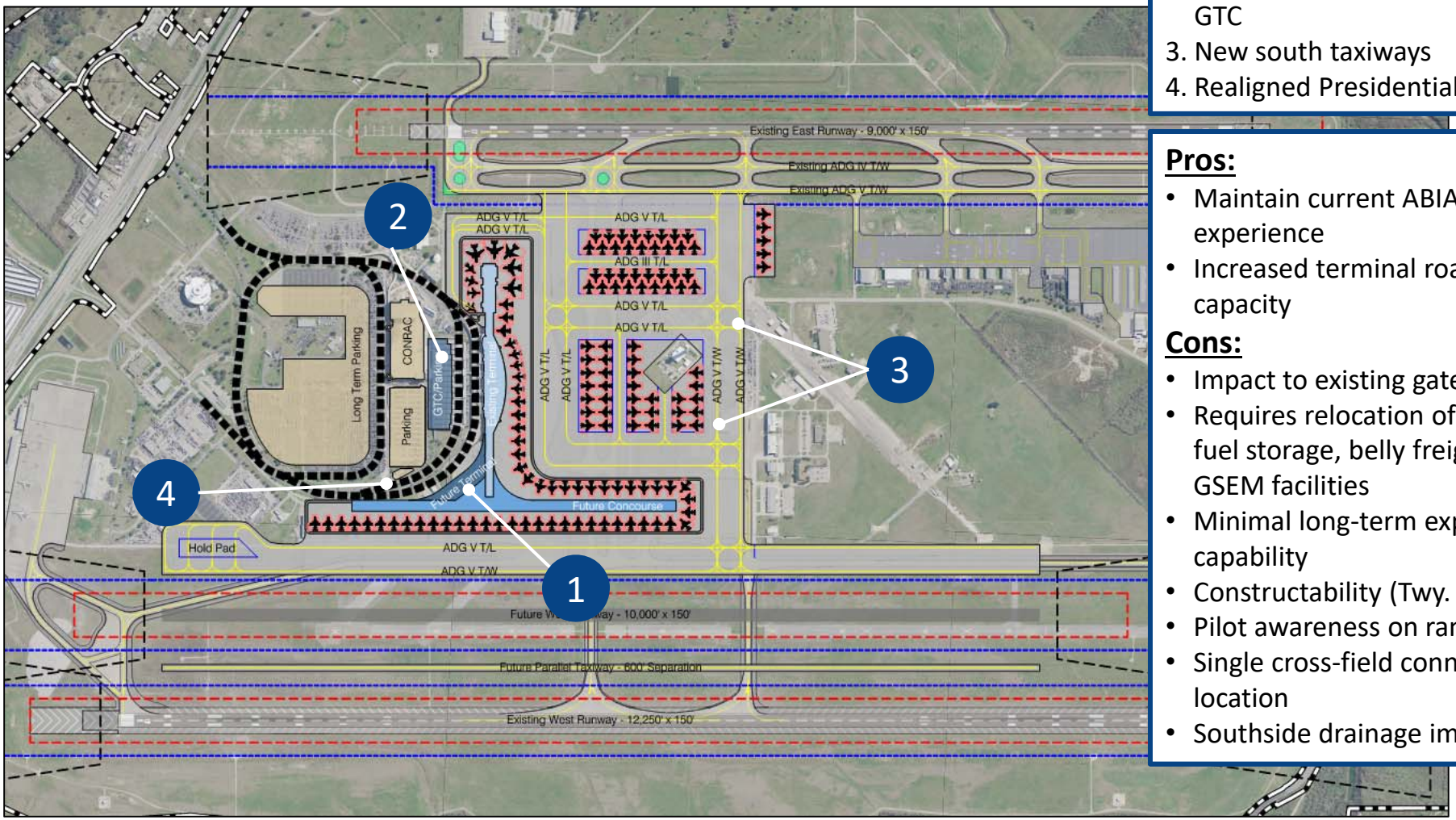
Cons:

- Impact to existing gates
- Complicated pax. wayfinding
- Requires relocation of existing fuel storage, belly freight, & GSEM facilities
- Minimal long-term expansion capability
- Constructability (Twy. B grade)
- Pilot awareness on ramp

NOTE: ALL OPTIONS REFLECT 64 CONTACT GATES (59 ADG III, 5 ADG V)

Terminal Alternative 2

Redeveloped Barbara Jordan Terminal



Key Attributes:

1. West terminal and concourse
2. Convert Garage 1 to Parking & GTC
3. New south taxiways
4. Realigned Presidential Blvd

Pros:

- Maintain current ABIA experience
- Increased terminal roadway capacity

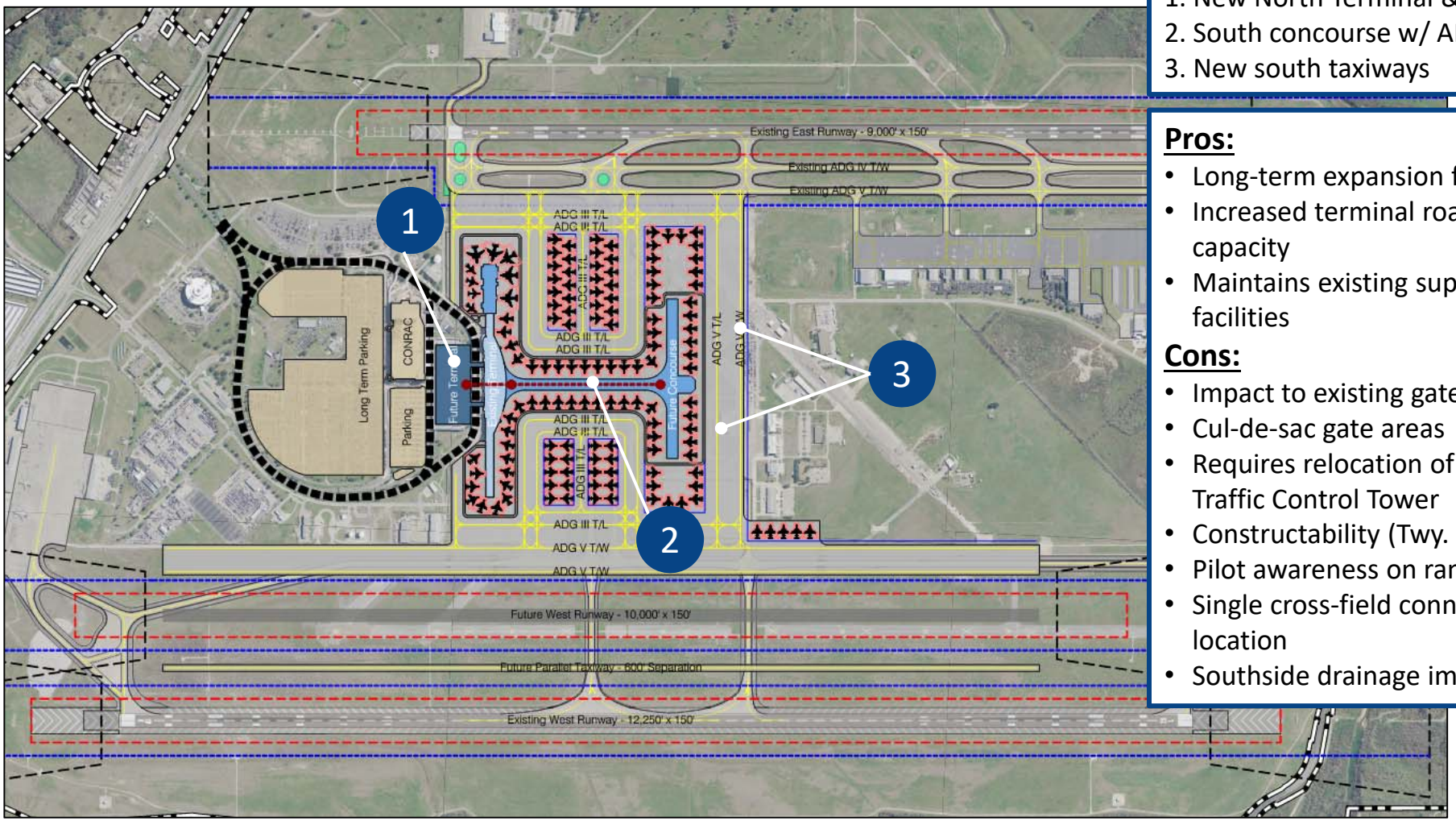
Cons:

- Impact to existing gates
- Requires relocation of existing fuel storage, belly freight & GSEM facilities
- Minimal long-term expansion capability
- Constructability (Twy. B grade)
- Pilot awareness on ramp
- Single cross-field connection location
- Southside drainage impacts

NOTE: ALL OPTIONS REFLECT 64 CONTACT GATES (59 ADG III, 5 ADG V)

Terminal Alternative 3

New North Terminal with South Concourse



Key Attributes:

1. New North Terminal & GTC
2. South concourse w/ APM
3. New south taxiways

Pros:

- Long-term expansion flexibility
- Increased terminal roadway capacity
- Maintains existing support facilities

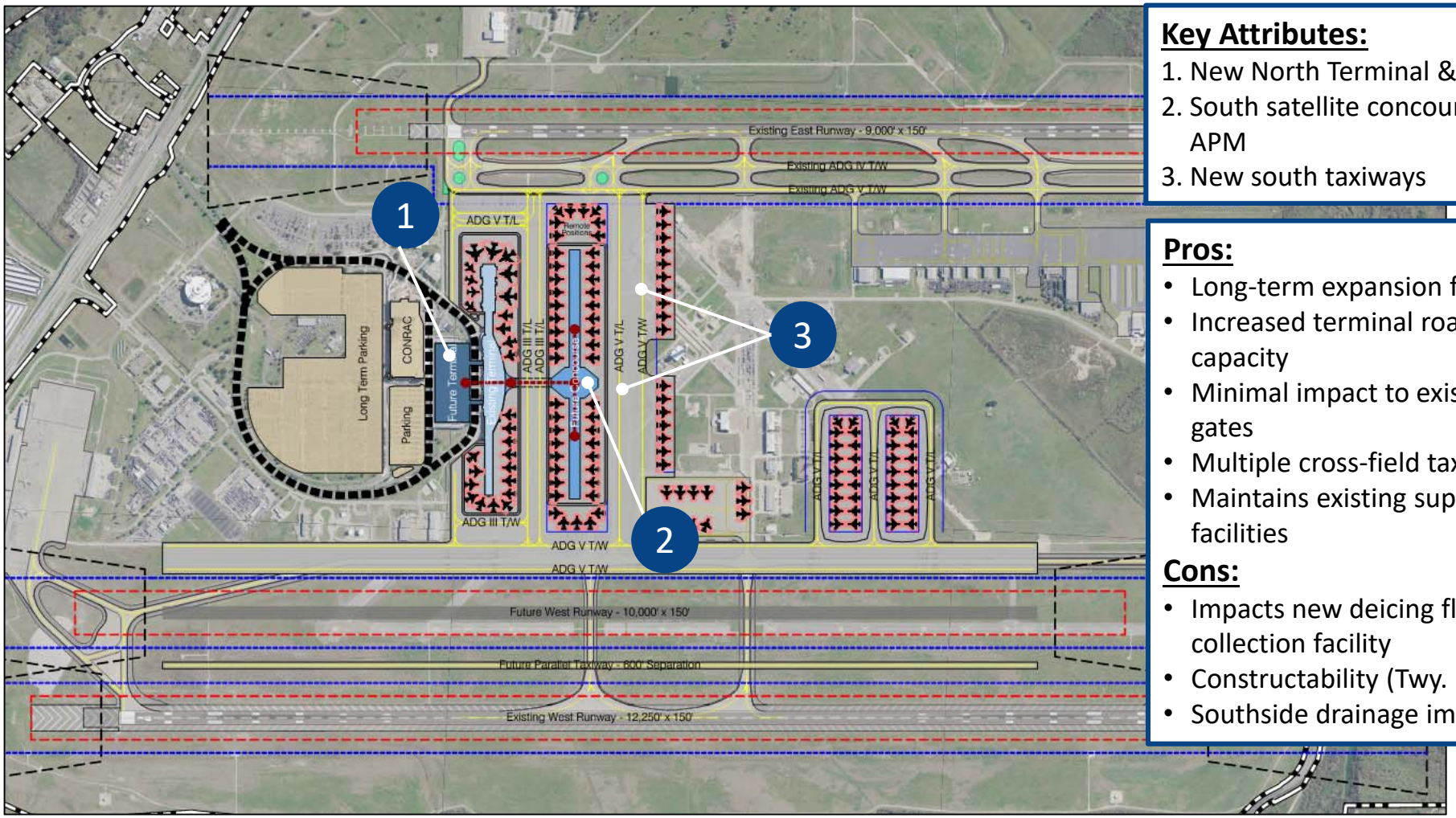
Cons:

- Impact to existing gates
- Cul-de-sac gate areas
- Requires relocation of Air Traffic Control Tower
- Constructability (Twy. B grade)
- Pilot awareness on ramp
- Single cross-field connection location
- Southside drainage impacts

NOTE: ALL OPTIONS REFLECT 64 CONTACT GATES (59 ADG III, 5 ADG V)

Terminal Alternative 4

New North Terminal with Satellite Concourse



Key Attributes:

1. New North Terminal & GTC
2. South satellite concourse w/ APM
3. New south taxiways

Pros:

- Long-term expansion flexibility
- Increased terminal roadway capacity
- Minimal impact to existing gates
- Multiple cross-field taxi flow
- Maintains existing support facilities

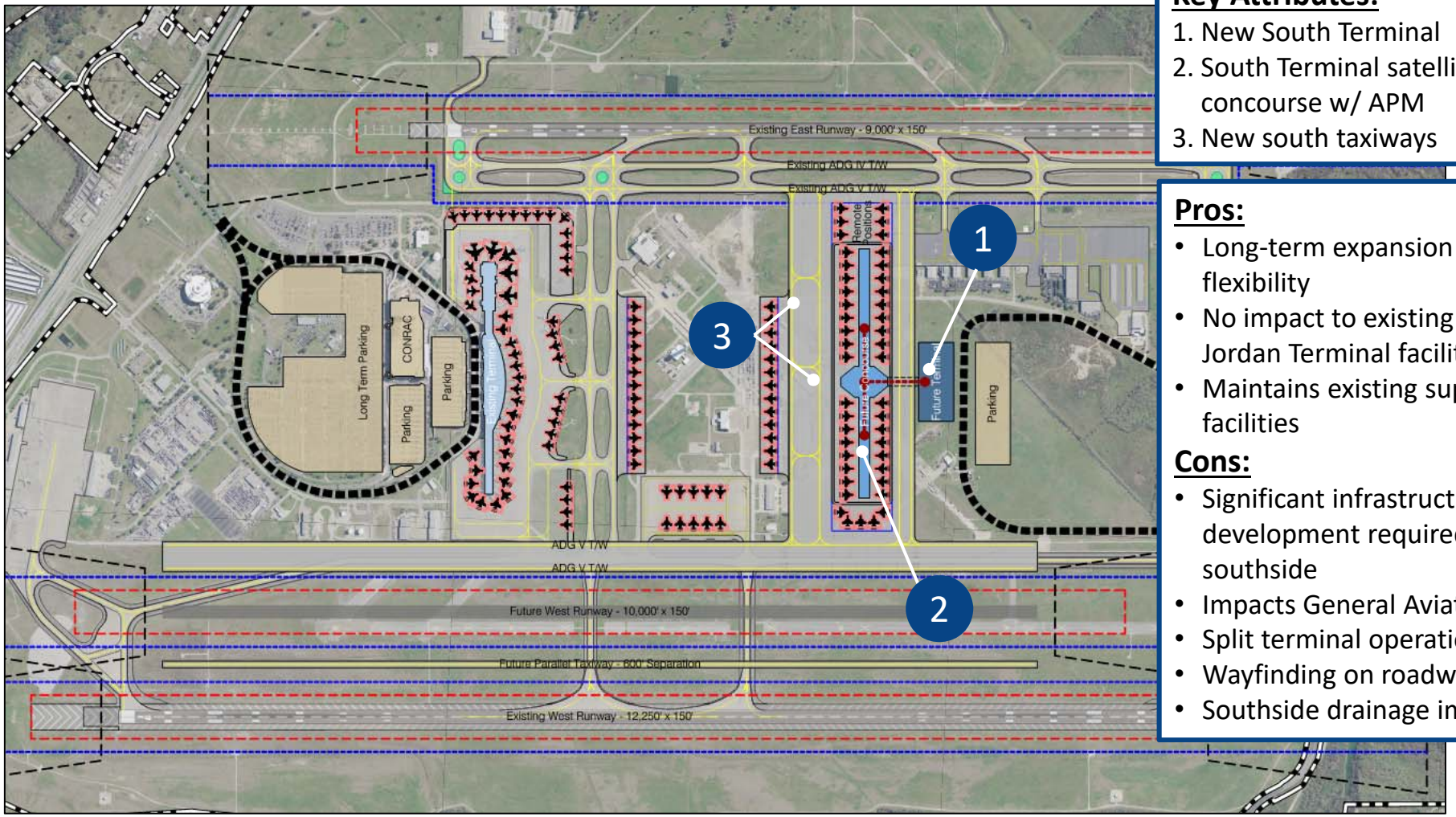
Cons:

- Impacts new deicing fluid collection facility
- Constructability (Twy. B grade)
- Southside drainage impacts

NOTE: ALL OPTIONS REFLECT 64 CONTACT GATES (59 ADG III, 5 ADG V)

Terminal Alternative 5

New South Terminal with Satellite Concourse



Key Attributes:

1. New South Terminal
2. South Terminal satellite concourse w/ APM
3. New south taxiways

Pros:

- Long-term expansion flexibility
- No impact to existing Barbara Jordan Terminal facilities
- Maintains existing support facilities

Cons:

- Significant infrastructure development required on southside
- Impacts General Aviation
- Split terminal operations
- Wayfinding on roadways
- Southside drainage impacts

NOTE: ALL OPTIONS REFLECT 63 CONTACT GATES (59 ADG III, 5 ADG V)

Comparison of Terminal Alternatives – Master Plan Horizon

	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Criteria	**Maximize BJT Capacity**	**Redeveloped BJT**	**North Term. + S. Concourse**	**North Term. + Satellite Concourse**	**South Term. + Satellite Concourse**
Maintains ABIA Experience	Y	Y	Y*	Y*	Y*
Intuitive Passenger Wayfinding	N	Y	Y	Y	N
Flexible Gate Growth	Y	Y	Y	Y	Y
Requires Automated Transit	N	N	Y	Y	Y
Operational Flexibility	Y	Y	Y	Y	Y
Impacts Current CIP Projects	N	Y	N	N	N
ATCT to Remain	Y	Y	N	Y	Y
C.U.P. to Remain	Y	Y	Y	Y	Y**
Impacts General Aviation	N	N	N	N	Y
Fuel Farm to Remain	N	N	Y	Y	Y
Ease of Constructability	N	N	N	N	N
Intuitive Pilot Wayfinding	N	N	N	Y	Y

* Automated Transit used to maintain curb-to-gate convenience
** Second CUP likely required

2037 LANDSIDE REQUIREMENTS

Austin-Bergstrom
International Airport

Landside Facility Requirements Approach

INPUTS

- ABIA Traffic Counts
- ABIA Parking Transactions
- Existing Levels of Service

EXISTING CONDITIONS

- Regional Growth Projections
- ABIA Operations Data
- Comparable Airports

PASSENGER GROWTH

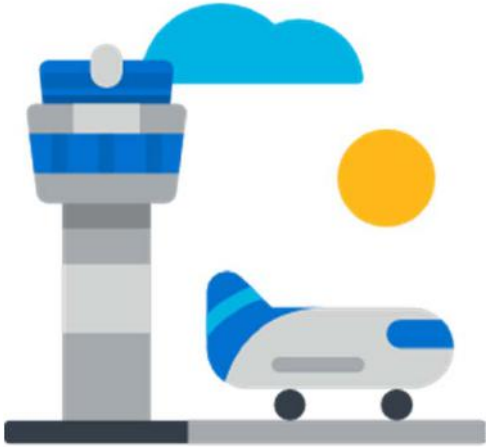
- CAMPO 2040
- Project Connect
- Connections 2025
- Austin Strategic Mobility Plan
- Imagine Austin
- Austin Smart Mobility Roadmap

REGIONAL PLANS

- Shared Driverless Cars
- Intelligent Parking Systems
- Personal Rapid Transit

NEW TECHNOLOGIES

FACILITY REQUIREMENTS ANALYSIS



OUTPUTS

- PARKING
- TERMINAL CURBSIDE
- REGIONAL ROADWAYS
- ON-CAMPUS ROADWAYS
- GROUND TRANS. CENTER
- PERSONAL RAPID TRANSIT
- INTERMODAL TRANSPORTATION

ALTERNATIVES

Demand/Capacity Regional Roadways Requirements Summary

PARKING AREAS	EXISTING V/C RATIO	PAL 1 16.0 MAP	PAL 2 17.0 MAP	PAL 3 20.0 MAP	PAL 4 27.0 MAP
SH130 – HAROLD GREEN TO SH71	0.18	0.18	0.30	0.59	1.17
SH130 – BURLESON RD TO SH71	0.17	0.18	0.30	0.61	1.23
SH71 – US183 TO SH130	0.82	0.84	0.81	0.70	0.49
US183 – MONTOPOLIS TO SH71	0.83	0.83	0.62	0.84	1.28
US183 – BURLESON RD TO SH71	0.75	0.78	0.85	0.98	1.23
FM973 – FM812 TO SH71	0.46	0.51	0.56	0.64	0.80
FM973 – FM969 TO SH71	0.26	0.28	0.40	0.68	1.23
BURLESON RD	0.47	0.49	0.52	0.57	0.67

Legend: **LOS A / B**; **LOC C / D**; **LOS E / F**

Presidential Blvd Roadway Segments – LOS in 2037 with No Improvements

SEGMENTS ON PRESIDENTIAL	AM LOS		PM LOS	
	2017	2037	2017	2037
SH71 to Hotel Drive	A	B	A	F
Hotel Dr. to Spirit of Austin Ln.	A	B	A	F
Spirit of Austin Ln. to Long Term Parking Entrance	A	C	B	F
Long Term Parking Entrance to Lower And Upper Curb Divergence	A	B	B	F
Lower Curbside Divergence to Garage A Exit	A	A	C	F
Garage A Exit to Start of Lower Curbside	A	A	F	F

SEGMENTS ON PRESIDENTIAL	AM LOS		PM LOS	
	2017	2037	2017	2037
Upper Curbside Divergence to Start of Upper Curbside	B	E	B	F
End of Lower Curbside Garage A Entrance	A	A	D	F
End of Upper Curbside Garage A Entrance	B	F	C	F
Garage A Entrance to Parking Lot G Exit	A	B	B	F
Parking Lot G Exit CONRAC Entrance	A	A	A	F
CONRAC Entrance Hotel Drive	A	A	A	F
Hotel Drive Exit SH 71	A	B	B	F

Legend: LOS A / B; LOC C / D; LOS E / F

Intersections – LOS in 2037 with No Improvements

INTERSECTION	AM LOS		PM LOS	
	2017	2037	2017	2037
SH71 WB Frontage at Spirit of Texas	B	E	C	F
SH71 EB Frontage at Spirit of Texas	A	F	B	F
SH71 WB Frontage at Presidential	C	C	C	F
SH71 EB Frontage at Presidential	D	D	D	F
Spirit of Texas at Hotel Dr.	A	F	D	F

INTERSECTION	AM LOS		PM LOS	
	2017	2037	2017	2037
Hotel Dr. at Employee Ave	A	A	A	E
Hotel Dr. at Presidential	A	A	A	F
Spirit of Texas at Spirit of Austin	A	F	B	F
Spirit of Texas at Rental Car Rd	A	A	A	F
Burleson Rd at General Aviation Ave.	A	C	B	B

Legend: LOS A / B; LOC C / D; LOS E / F

Terminal Curbside – LOS in 2037 with No Improvements

LOCATION	AM SECONDS IN QUEUE	AM LOS	AM SECONDS IN QUEUE	AM LOS	PM SECONDS IN QUEUE	PM LOS	PM SECONDS IN QUEUE	PM LOS
	2017		2037		2017		2037	
Upper Level – Inner Lane	2	A	46	C	4	B	20	B
Upper Level – Outer Lane	18	B	62	C	18	B	32	B
Lower Level – Inner Lane	0	A	1	A	135	F	472	F
Lower Level – Outer Lane	0	A	11	A	102	E	418	F

Legend: LOS A / B; LOC C / D; LOS E / F

Terminal Curbside Loading/Unloading Lane LOS in 2037 with No Improvements

MODE	FUTURE PEAK HOUR TRAFFIC VOLUME STOPPED AT CURBSIDE	AVERAGE DWELL TIME [SECONDS]	DEMAND IN LINEAR LENGTH [FT]	CURBSIDE LOADING / UNLOADING EFFECTIVE LENGTH [FT]	CURB UTILIZATION RATIO	CURBSIDE LANES LOS BASED ON UTILIZATION FACTOR
Upper Level Curbside						
Individually Owned Vehicle	1144	65	870	820	1.06	B
On-Site Parking Shuttle	46	125	190	200	0.95	B
Off-Site Parking Shuttle	50	125	190	210	0.90	A
Lower Level Curbside						
Individually Owned Vehicle	1205	70	990	540	1.83	E
Taxi	166	375	750	590	1.27	C
On-Site Parking Shuttle	17	125	114	210	0.54	A
Off-Site Parking Shuttle	75	130	228	210	1.09	B
Transit	8	300	114	180	0.63	A

Legend: LOS A / B; LOC C / D; LOS E / F

Terminal Curbside Thru Lanes LOS with No Improvements

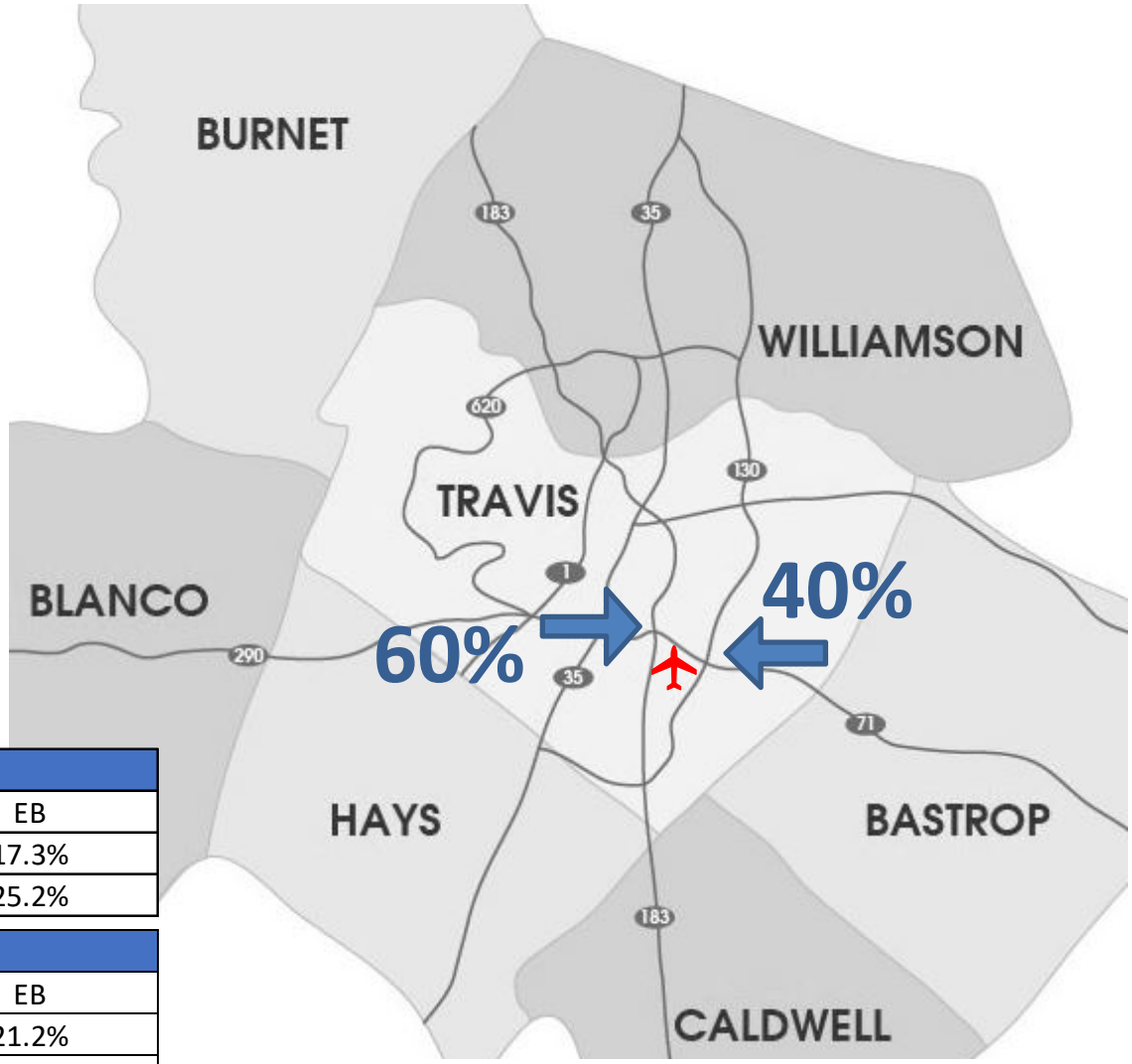
	FUTURE PEAK HOUR VOLUME (VPH)	FUTURE CAPACITY [VPH]	V/C RATIO	LOS
2019				
Curbside Upper Level	710	2790	0.25	B
Curbside Lower Level	910	2220	0.41	C
2022				
Curbside Upper Level	780	2790	0.28	B
Curbside Lower Level	1000	2220	0.45	C
2027				
Curbside Upper Level	900	2790	0.32	B
Curbside Lower Level	1160	2220	0.52	C
2032				
Curbside Upper Level	1040	2790	0.37	B
Curbside Lower Level	1340	2220	0.60	C
2037				
Curbside Upper Level	1200	2790	0.43	C
Curbside Lower Level	1540	2220	0.69	D

Legend: LOS A / B; LOC C / D; LOS E / F

PASSENGER TRAVEL ROUTES TO ABIA

Passenger Travel Routes to ABIA

- 60% of passengers are from Travis County
- The following counties account for 92% of passengers in order of percent
  - Travis
  - Williamson
  - Hays
  - Bell
  - Bexar
  - Bastrop
  - Brazos
- Percentages assume 1/3 of Travis County passengers use SH 130 to access airport

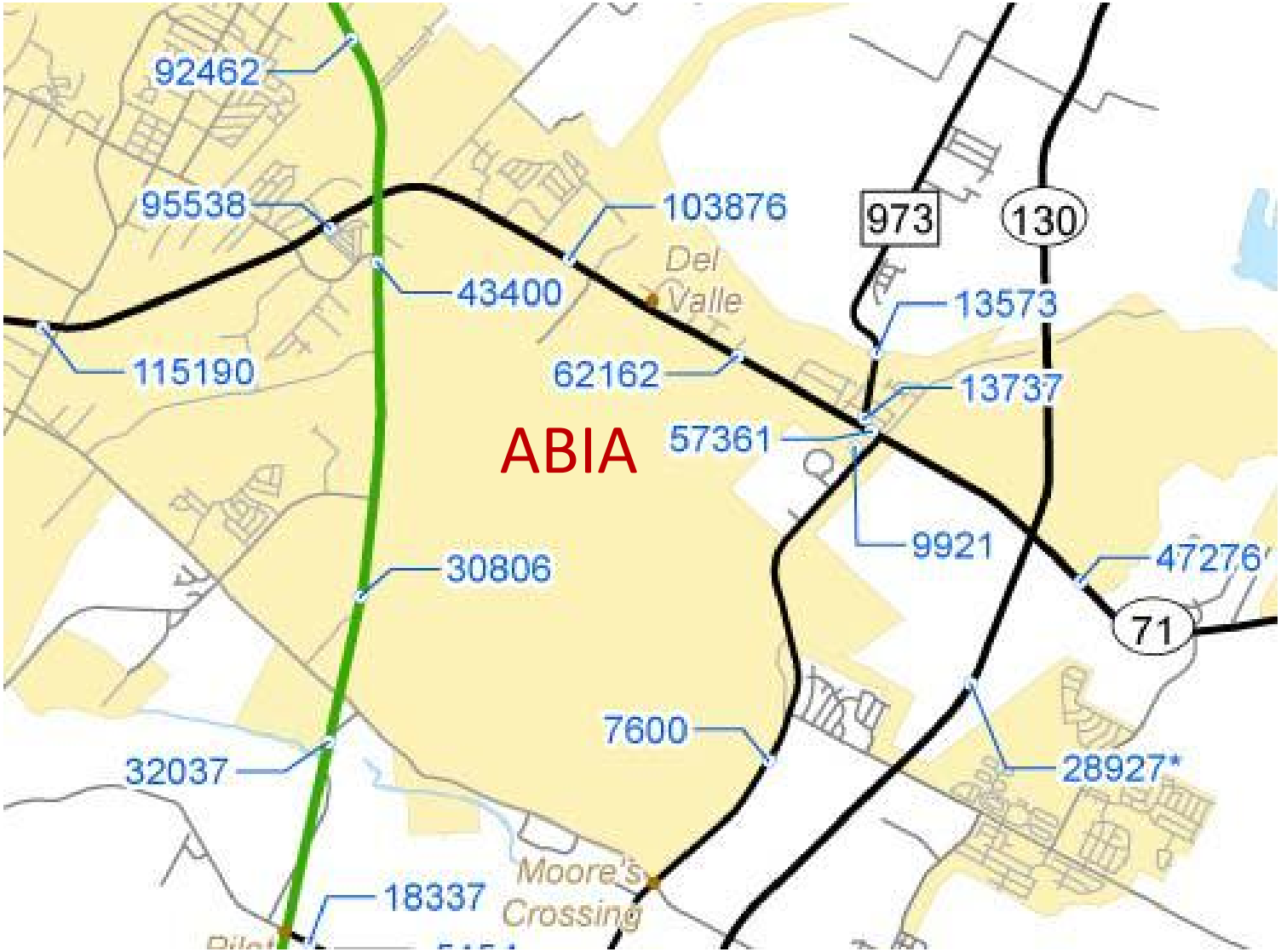


Presidential Boulevard				
	NB (WB)	EB	NB (WB)	EB
AM Peak	803	168	82.7%	17.3%
PM Peak	1158	391	74.8%	25.2%

Spirit of Texas				
	NB (WB)	EB	NB (WB)	EB
AM Peak	215	58	78.8%	21.2%
PM peak	363	136	72.7%	27.3%

ABIA ROADWAY TRAFFIC COUNTS

2016 Austin District Traffic Map



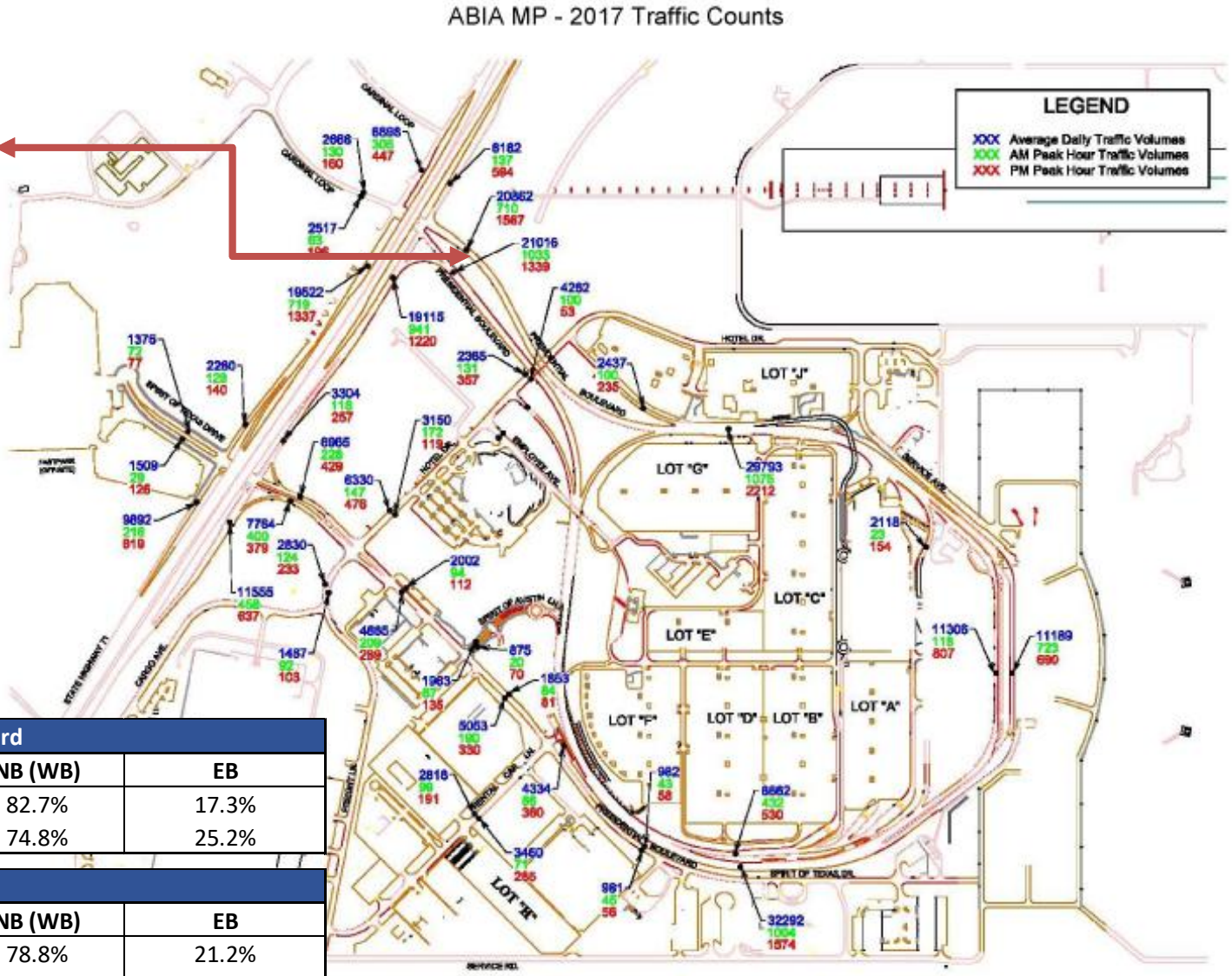
ABIA Traffic study

- Traffic counts taken July 21 – August 3, 2017 using video cameras
- Peak Day was July 28, 2017
- 24 hour counts to determine peak hours
- Classification counts determine % heavy vehicles and shuttles
- Turning movement counts to study intersection operations
- Traffic speed data for VISSIM modeling for existing and future conditions

ABIA Existing Roadway Traffic Counts (2017)

Presidential Blvd. Heading west on SH 71 – LOS D

710
1587



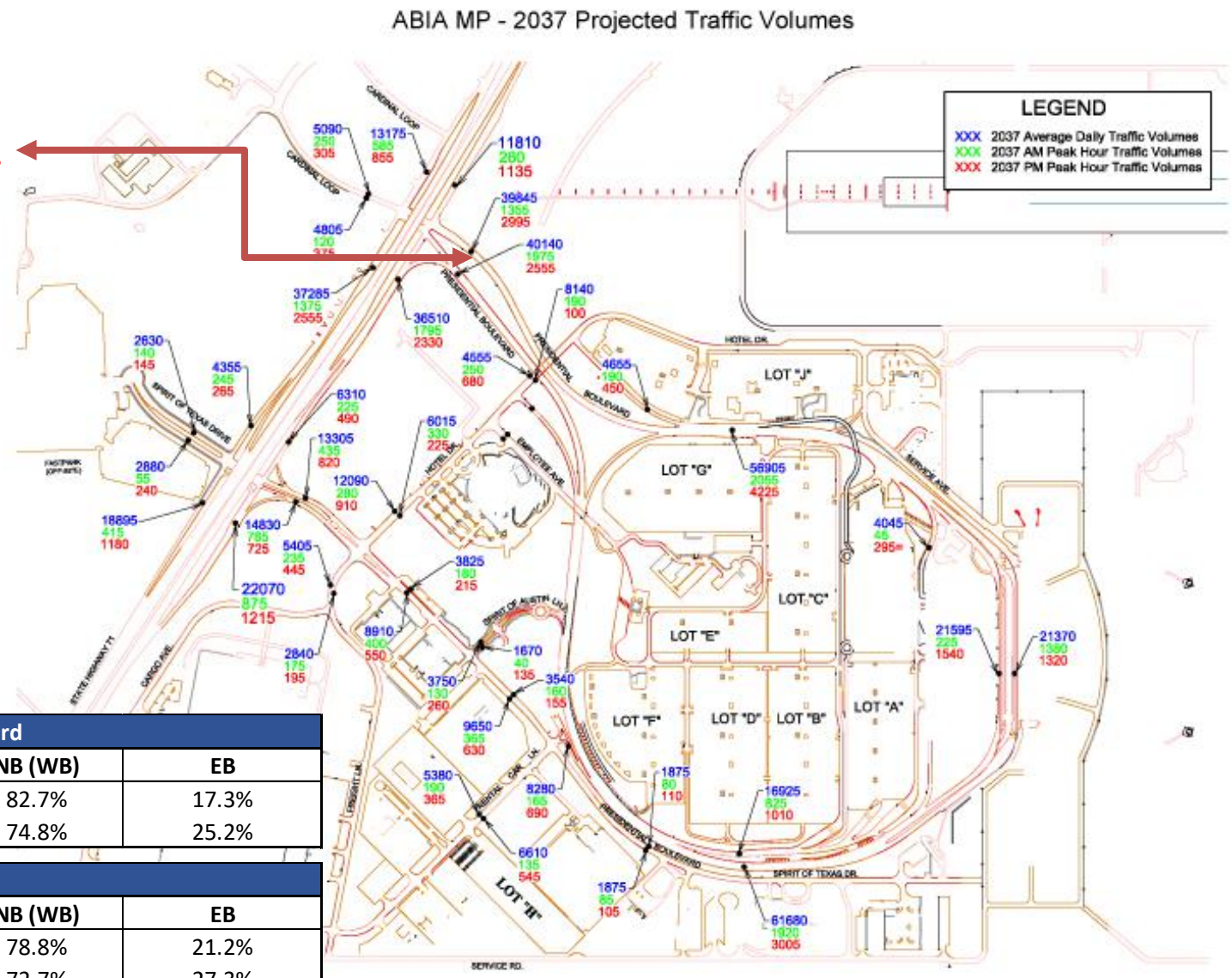
Presidential Boulevard				
	NB (WB)	EB	NB (WB)	EB
AM Peak	803	168	82.7%	17.3%
PM Peak	1158	391	74.8%	25.2%

Spirit of Texas				
	NB (WB)	EB	NB (WB)	EB
AM Peak	215	58	78.8%	21.2%
PM peak	363	136	72.7%	27.3%

ABIA Future Roadway Traffic Counts (2037)

Presidential Blvd. Heading west on SH 71 – LOS F

710	1355
1587	2995
Exist. LOS D	**Fut. LOS F**

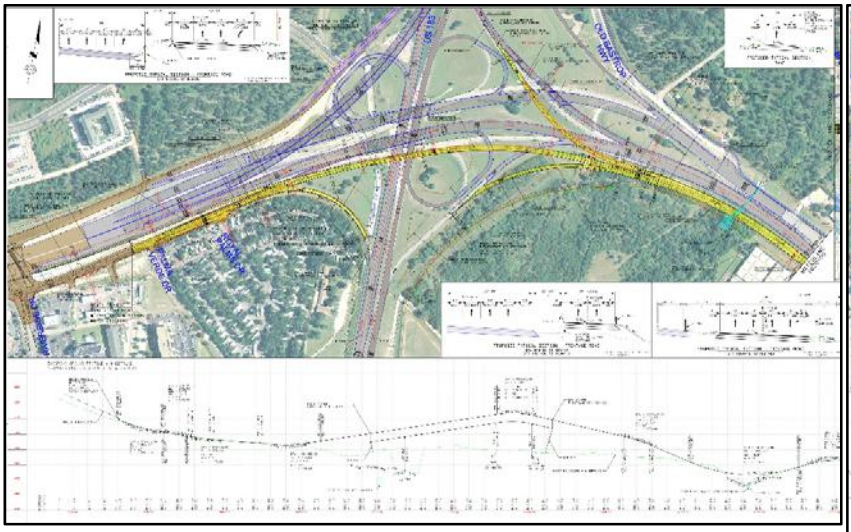


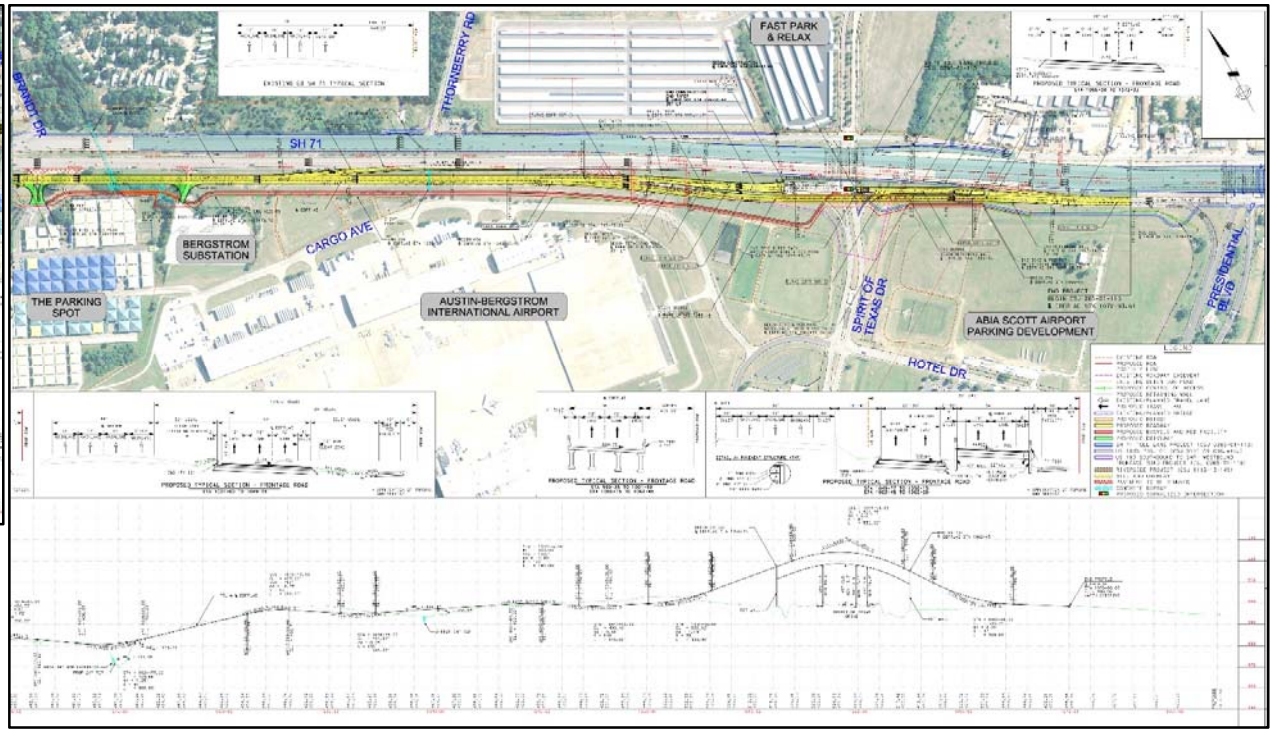
Presidential Boulevard				
	NB (WB)	EB	NB (WB)	EB
AM Peak	803	168	82.7%	17.3%
PM Peak	1158	391	74.8%	25.2%

Spirit of Texas				
	NB (WB)	EB	NB (WB)	EB
AM Peak	215	58	78.8%	21.2%
PM peak	363	136	72.7%	27.3%

SH 71 East Bound Frontage Roadway

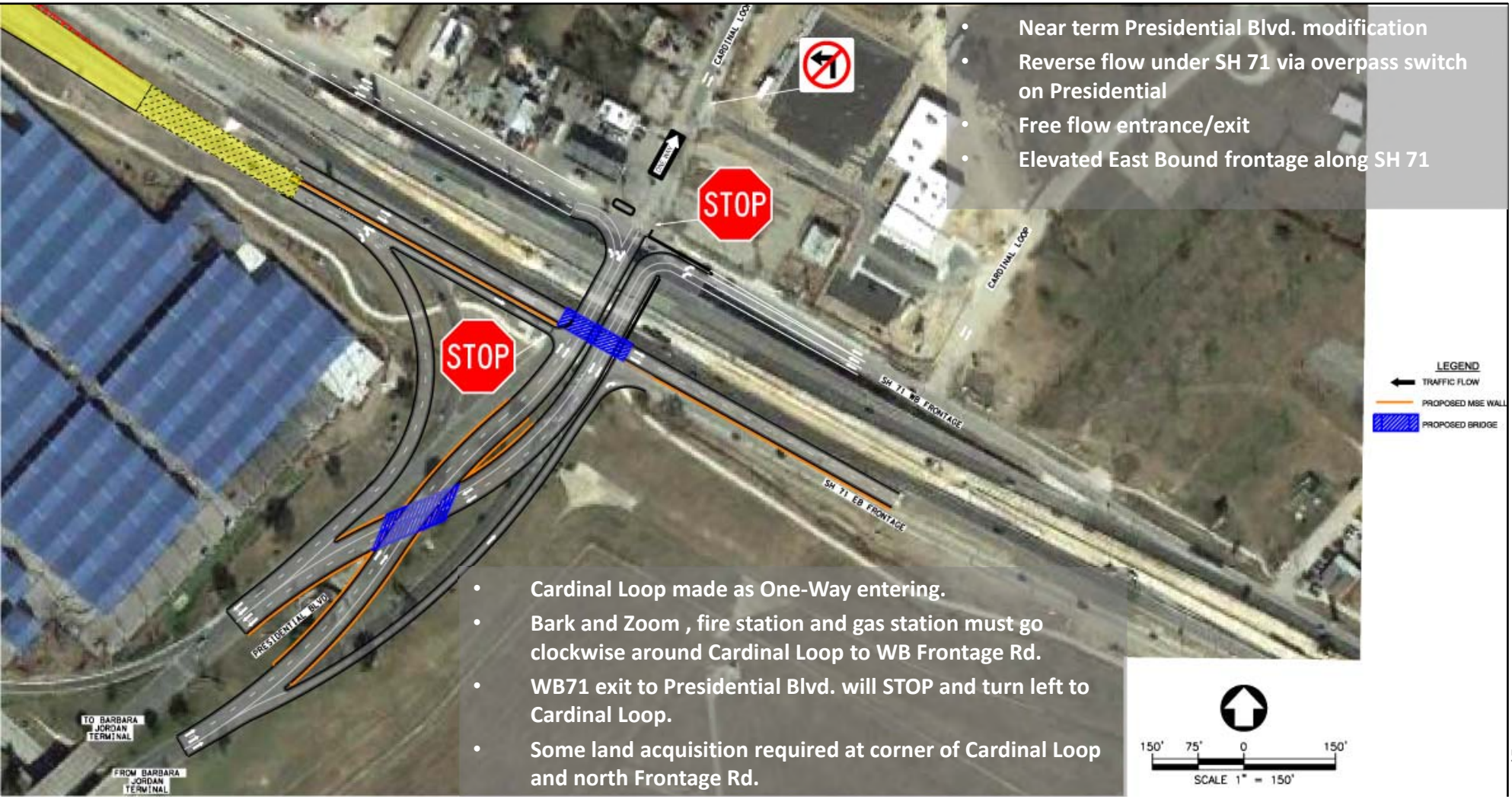
- Access to ABIA from east bound SH 71 will need to exit before SR 183





ABIA ROADWAY ALTERNATIVES

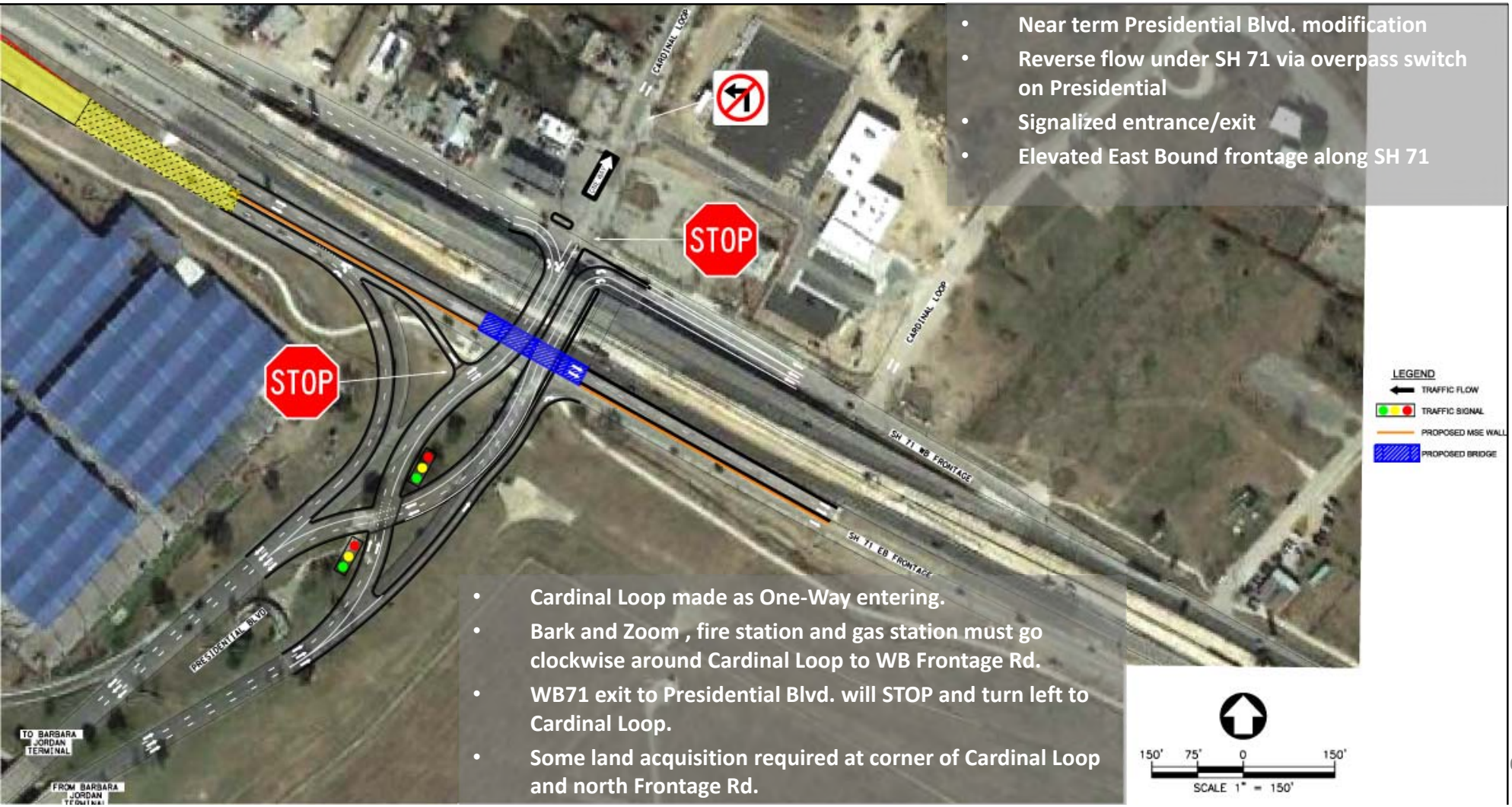
Alternative 1
Braided Left Turn (Near Term)



- Near term Presidential Blvd. modification
- Reverse flow under SH 71 via overpass switch on Presidential
- Free flow entrance/exit
- Elevated East Bound frontage along SH 71

- Cardinal Loop made as One-Way entering.
- Bark and Zoom , fire station and gas station must go clockwise around Cardinal Loop to WB Frontage Rd.
- WB71 exit to Presidential Blvd. will STOP and turn left to Cardinal Loop.
- Some land acquisition required at corner of Cardinal Loop and north Frontage Rd.

Alternative 2
Diverging Diamond (Near Term)



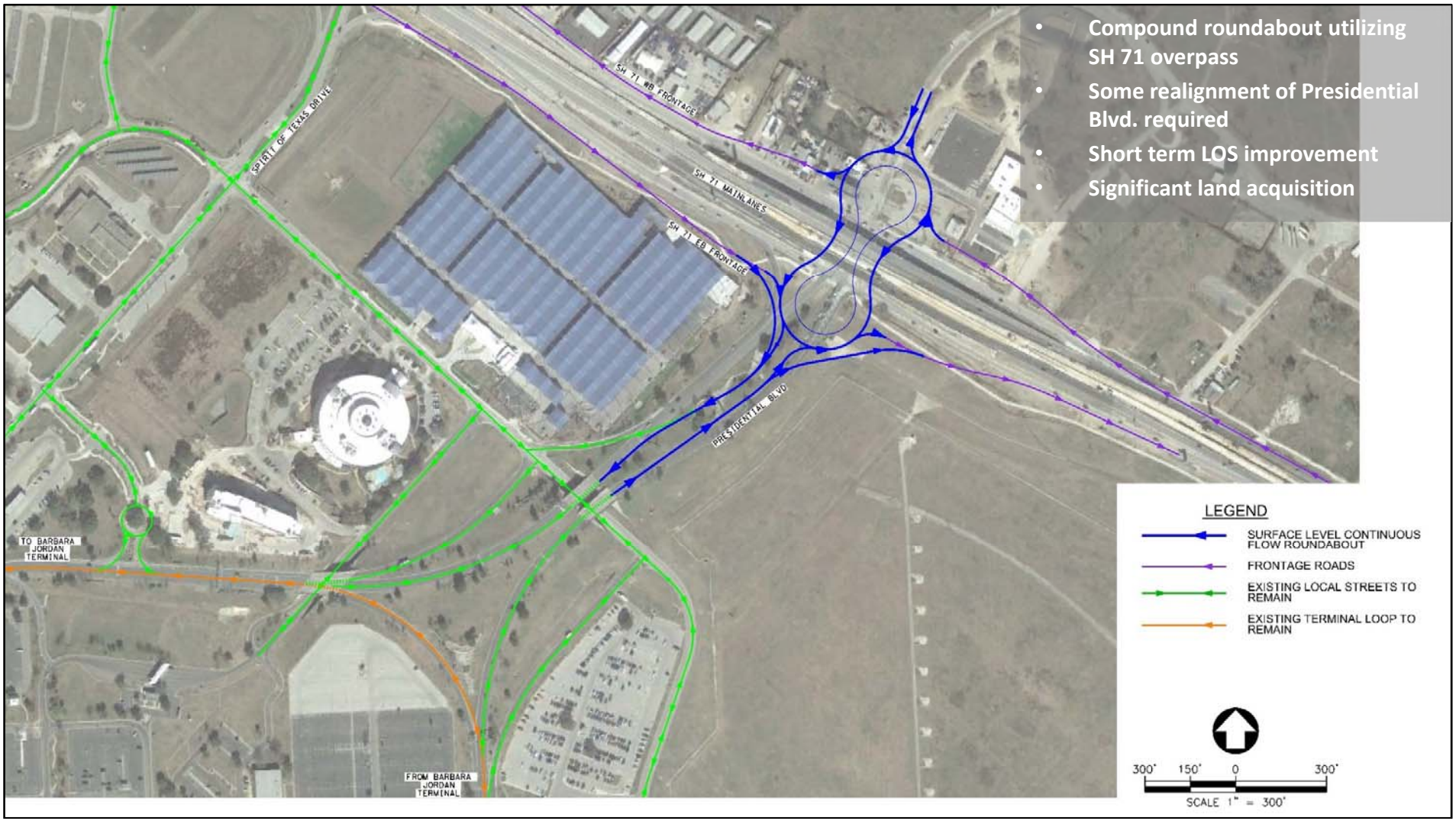
- Near term Presidential Blvd. modification
- Reverse flow under SH 71 via overpass switch on Presidential
- Signalized entrance/exit
- Elevated East Bound frontage along SH 71

- Cardinal Loop made as One-Way entering.
- Bark and Zoom , fire station and gas station must go clockwise around Cardinal Loop to WB Frontage Rd.
- WB71 exit to Presidential Blvd. will STOP and turn left to Cardinal Loop.
- Some land acquisition required at corner of Cardinal Loop and north Frontage Rd.

Alternative 3
Elevated U-Turn (Near Term)

- Elevated U-Turn for West Bound exit
- Free flow entrance/exit
- Elevate SH 71 frontage roads
- Awkward driver experience (go east to go west on SR 71)

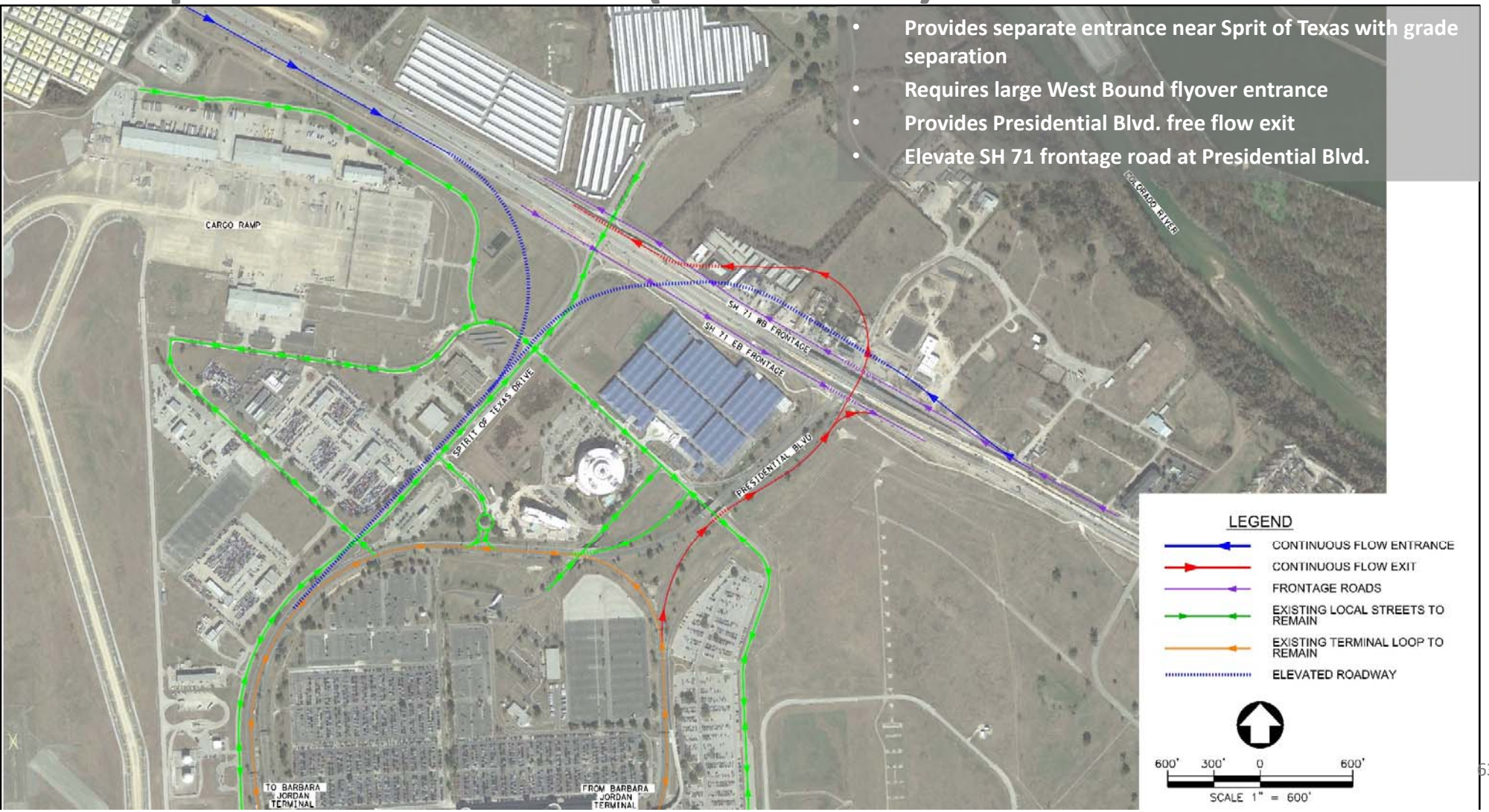
Alternative 4
Roundabout (Near Term)



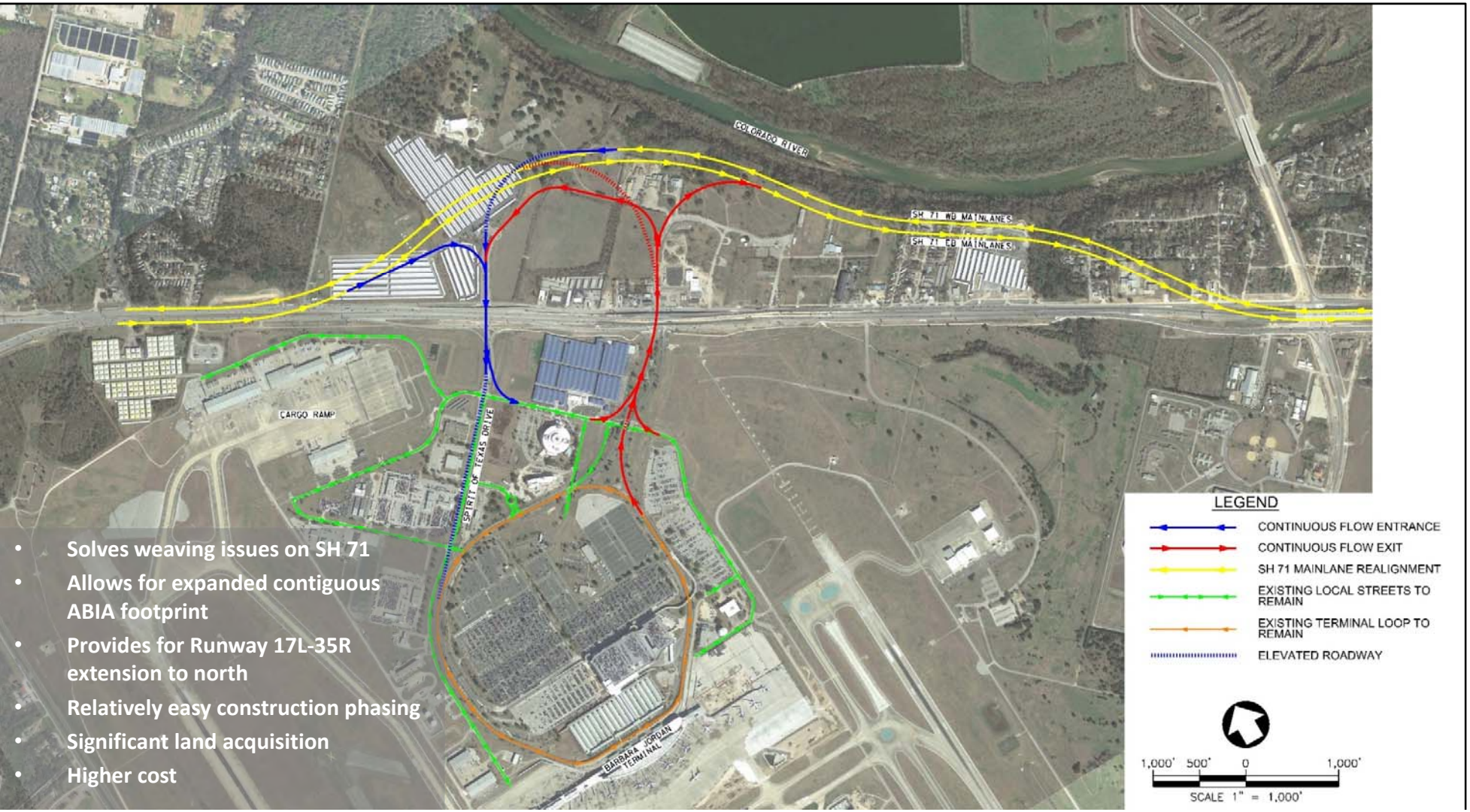
- Compound roundabout utilizing SH 71 overpass
- Some realignment of Presidential Blvd. required
- Short term LOS improvement
- Significant land acquisition

Alternative 5
Separate Entrance (Ultimate)

- Provides separate entrance near Sprit of Texas with grade separation
- Requires large West Bound flyover entrance
- Provides Presidential Blvd. free flow exit
- Elevate SH 71 frontage road at Presidential Blvd.

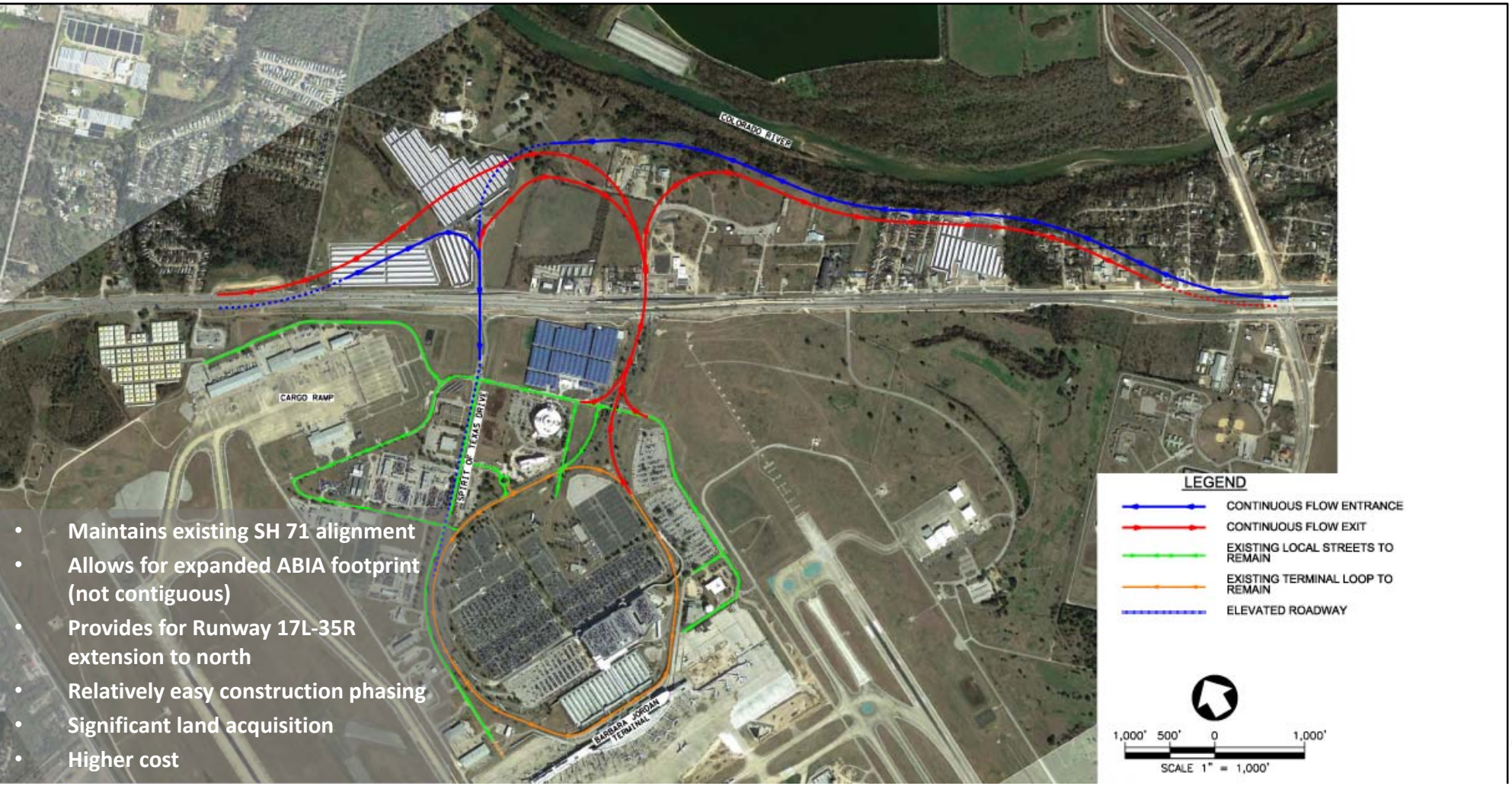


Alternative 6
Relocate SH 71 (Ultimate)



- Solves weaving issues on SH 71
- Allows for expanded contiguous ABIA footprint
- Provides for Runway 17L-35R extension to north
- Relatively easy construction phasing
- Significant land acquisition
- Higher cost

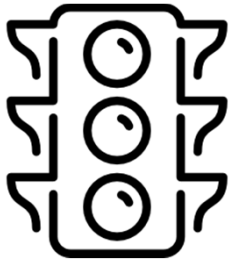
Alternative 7
North Entrance Roads (Ultimate)



- Maintains existing SH 71 alignment
- Allows for expanded ABIA footprint (not contiguous)
- Provides for Runway 17L-35R extension to north
- Relatively easy construction phasing
- Significant land acquisition
- Higher cost

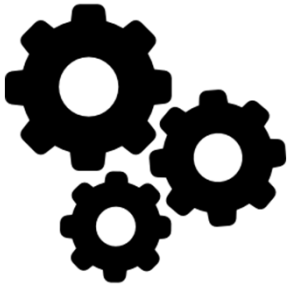
Evaluation Criteria for Roadway Alternatives

Clear and Simple



No Stops

Intermodal



Development

Sense of Place

Costs

Evaluation of Roadway Alternatives

	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt .5	Alt. 6	Alt. 7
Criteria	**Reverse Flow**	**DDI**	**Elevated U-Turn**	**Round-about**	**Separated Entrance**	**Relocate SH 71**	**North Entrance Rd.**
Clear & Simple	☑		☑		☑	☑	☑
No Stops	☑		☑	☑	☑	☑	☑
Sense of Place	☑				☑	☑	☑
Intermodal	☑					☑	☑
Development	☑	☑	☑	☑	☑	☑	☑
Costs	☑	☑		☑			
Notes	Low cost Near-term	Lower cost Near-term	Wrong way exit Near-term	Lower cost Near-term	Improves internal circulation	Improves Airport & runway options	Improves Airport development land

NEW TECHNOLOGY IMPACTS ON LANDSIDE FACILITY REQUIREMENTS

Shared Driverless Cars (SDC)

- Will be used >50% of the day compared to <5% for a car.
- A 2% penetration then equals a 20% penetration of vehicle miles traveled.
- One shared driverless car trip could replace multiple parking stalls.
- One shared driverless car could make ten+ trips a day (assuming a round trip takes about one hour).

Shared Driverless Cars (SDC)

- People who park for longer will switch first.
- Business travelers will also be early adopters.
- Rental car companies and TNCs will switch to driverless cars .
- Demand for on-airport rental car storage will decrease because cars can be automatically sent offsite for storage and maintenance.

Impacts of Shared Driverless Cars

Decrease

- Parking demand and revenue
- Rental car demand and revenue

Increase

- Off and on-campus roadway traffic congestion
- Curbside (upper and lower) congestion

NEXT STEPS

Austin-Bergstrom
International Airport

PAC Next Steps

- Public Workshop #2 – April 19th (6-8:30pm)
- Next PAC Meeting #4 – late-September
  - Preferred Airport Layout
  - Implementation Plan
  - Financial / Costs